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THE SUDAN

HOW PEOPLE LIVE

GENERAL EDITOR **A. E. TUBBS** *Lecturer in Education, Birmingham University*

THE AUTHORS in this series of books write about other lands and peoples they know well. In each book they give you the sort of information you might be able to obtain for yourself if you travelled abroad to study how people live in other countries. With pictures, maps and words, the authors make it possible for you to understand different ways of life and work in different places.

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HOW PEOPLE LIVE IN

THE SUDAN

R. A. HODGKIN
and
K. C. LOCK



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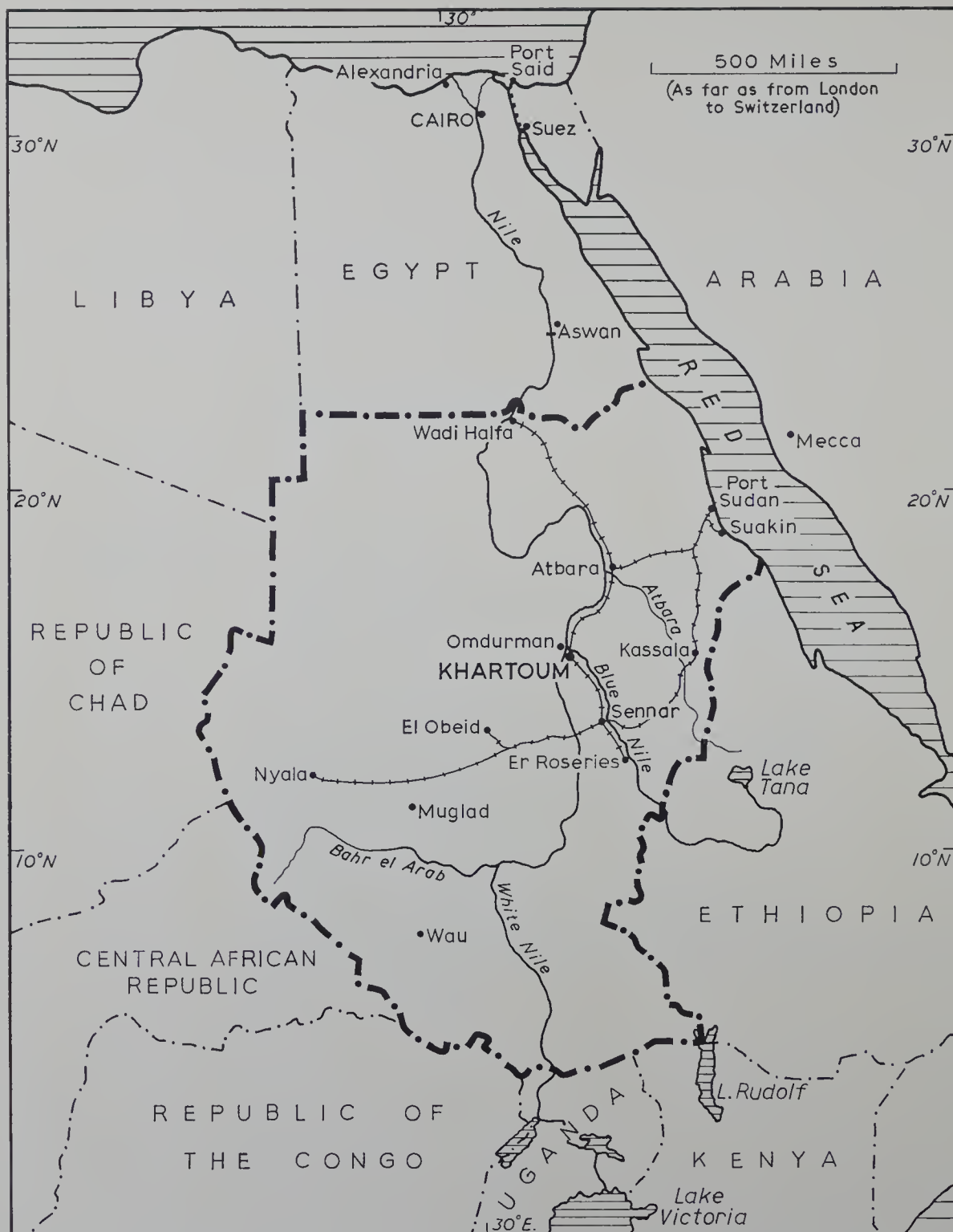


FIG. 1. *The Republic of the Sudan and her neighbours. Only the Sudan's railway system is shown. In your atlas find out which of these countries have railway systems. Why do they not link up together? An extension has recently been made to Wau.*

CHAPTER ONE

A FIRST LOOK AT THE GRASSY PLAINS OF THE TROPICS

WE are sitting in the scanty shade of a thorn tree—my Arab guide and I. It is June and the sun strikes through the thin, thorny branches with intense heat. In the distance the trees dance in a shimmering haze, but we know that the shiny pools beneath them are nothing but a mirage.

Our longitude is 29° east of Greenwich and our latitude is $13\frac{1}{2}^{\circ}$ north of the Equator. The noonday sun is now overhead in Egypt to the north, for it is nearly midsummer. These are the grassy plains of the Sudan's savanna belt which lies well within the tropics. We are resting through the midday heat and only travel in the early morning and late afternoon.

Thorn trees and dry, yellow grass—that is the view which stretches around us and that is the background of all savanna scenes before the rains come. Our camels are crouched on the other side of the tree. They had a drink yesterday at a village well, but today they will have to go thirsty. We are more fortunate, for hanging from the tree is a black, glistening goatskin, tanned, turned inside out and filled with water, enough to drink for two days and a little to spare. When we drink from the skin, squirting the water from a shrivelled leg, it tastes cold. Little droplets of water collect on the shiny outside of the skin. As these are evaporated they keep the

rest of the water cool in the same way as our sweat glands cool our bodies. There is a leathery, smoky taste in the water which I did not like at first. But one soon gets to like odd tastes when thirst is strong—the real thirst of the desert's edge.

Travelling in the savanna in May or June is rather like travelling in the desert. But there is this big difference: the thorn trees, the seeds of the dead grass, the thirsty camel, all will revive in the summer rain which will soon come here but which will not reach the desert. Even now, as we sit sweating and tired beneath our tree, we see the signs of approaching rain. In the south the cotton-wool clouds of morning are building up into big cumulus clouds. In the evening we will see summer lightning over the southern horizon, the flickering flashes of storms a hundred miles away. It is too far to hear the thunder or to see the actual lightning slashing the horizon. This is another sign that soon the summer rain will move northwards to refresh the dry savanna and make our journey a pleasure, not a hardship.

Thorn Trees and Grass

When travelling on the edge of the desert we see a tree every two or three hundred yards. Only when we see no trees at all do we know that it is the real desert. As long as we see a few trees we can call it the semi-desert. In the savanna proper you see lots of trees, but there is so much grass and the trees are so scattered that you cannot call it forest. If you were to travel in the opposite direction—away from the desert and towards the Equator—you would find the trees becoming larger and more frequent until, eventually, the branches would begin to meet over your head. The grass gets less

*Camels being taken
to a dry water course
for grazing on the
edge of the desert.*



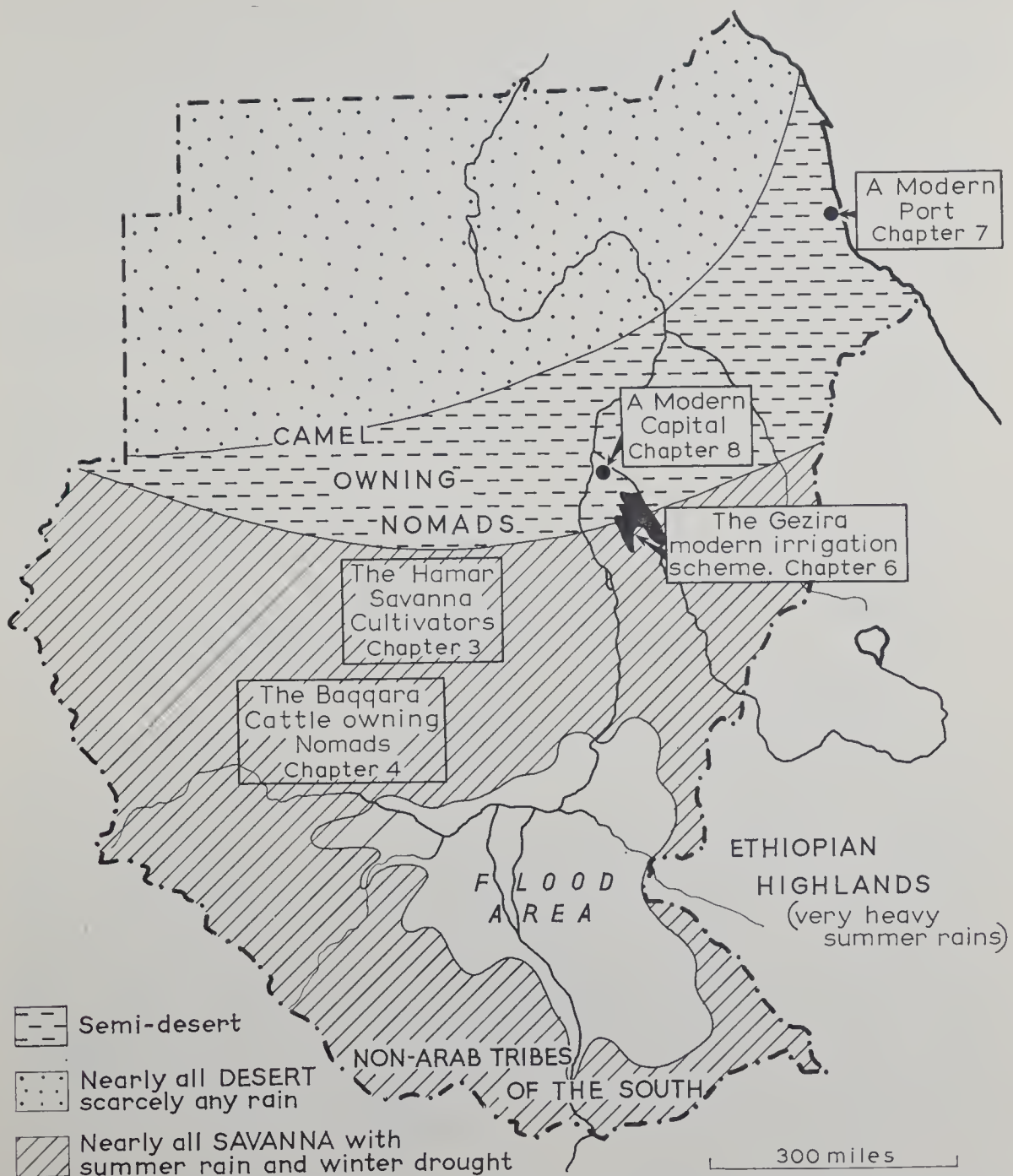


FIG. 2. This map shows the main belts of vegetation in the Sudan, and where the principal groups described in the chapters of the book are located.

and the trees grow higher as they compete with each other for sunlight. This is the beginning of the Equatorial rain forest.

The savanna is thus a broad belt stretching between the desert and the Equatorial forests, with trees getting more frequent and bigger as the Equator is approached. But let us return to our thorn tree of the poor northern savanna. Why are thorn trees and grass well suited to savanna conditions?

The main reason is that trees and grass are well adapted to a long dry season. The thorn trees—many different species of acacia—use the following means to defeat drought:

1. They have small leaves to reduce water loss by transpiration.
2. They often have hairy leaves to stop the wind drying them too quickly.
3. They may have leathery or waxy leaves so that little moisture evaporates from their surface.
4. They have thorns to stop animals eating their leaves.
5. They may have a ready supply of gum to seal up trunk wounds quickly.
6. They have deep, wide-spreading roots to search for water.

Other trees store water in their fleshy stems and leaves. Grass has very few of these advantages. How does it manage so well? It manages by being able to grow very quickly from seed at the beginning of the rainy season and then it dies when the drought comes. But it produces lots of seeds and these can survive months and even years of drought. It is these advantages—rapid growth and lots of tough seeds—which also make certain grasses suitable for food crops. All cereal crops are descended from grasses and, as you will read later, certain cereals, notably millet, are very important grain crops in the savanna wherever enough water is available.

Savanna Lands in the World

Most of Britain and Western Europe was mainly forest land before men cleared it, but in Eastern Europe, Central Asia and in the centre

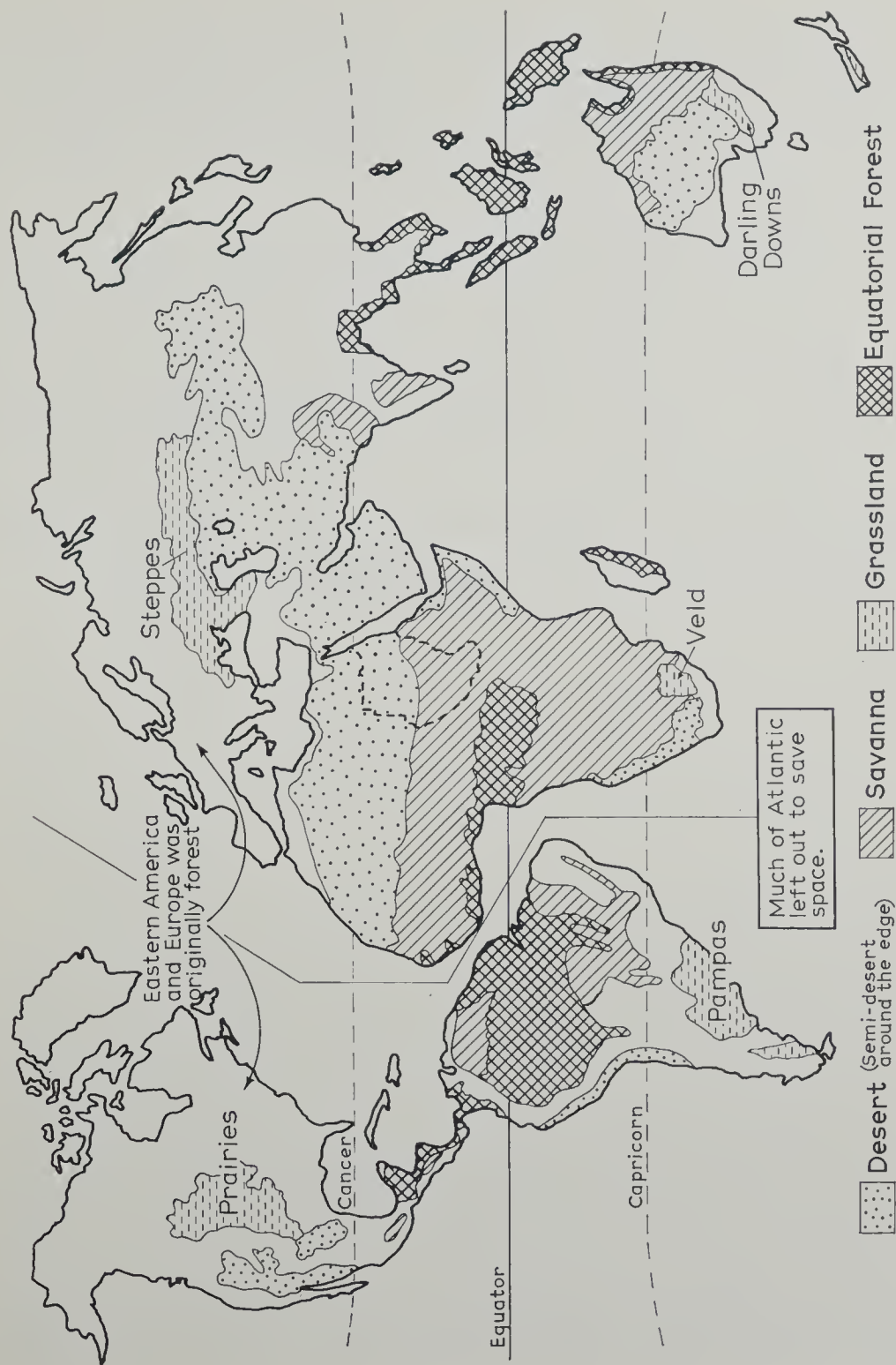


FIG. 3. This map shows how the main natural grasslands often run along the edges of deserts. The savanna usually lies between desert and equatorial rain forest.

of North America there are huge plains of natural treeless grassland. These grasslands are not savanna. They are called temperate grasslands because they are neither very hot nor very cold. They form the world's greatest wheat and meat producing lands. On the world map there are five such areas marked.

The savanna lands are mainly in Africa, though there are several big areas of savanna outside Africa. Savanna is often called tropical grassland because the climate is very different from that of the temperate grassland. All hot grassland areas lie between the tropics and the Equator. You will see from Figure 3 that the Sudan is largely made up of savanna. About one-third of it is desert and there are some hilly and swampy places too, but these are not shown. This book is about the Sudan's savanna lands. Before studying them in more detail let us look at the country as a whole.

CHAPTER TWO

ISLAM, THE RELIGION OF THE ARABS

MY Arab guide is called Haj Abdullah. The word Haj shows that he has done the long pilgrimage to Mecca, one of the duties of his religion (Islam). Abd-ullah means "slave of God" (Allah). When I was working for the Government he travelled with me on the sandy savanna tracks in the region to the north-west of El Obeid. In Chapter Three we will visit this country where the Hamar tribe lives. Haj Abdullah and I talk to each other in Arabic, and, though he cannot read, he knows many verses of the Koran, the holy book of Islam, by heart.

The Sudan is a country where Arabic is the main language and Islam is the main religion. In the swampy country of the Upper Nile and in the thickly wooded country of the South there are many non-Arabic tribes. But in the central belt and on the edges of the desert the people are Moslems and speak Arabic. In the seventh century A.D. the Prophet Mohammed started the Moslem religion in the desert towns of Arabia. His fanatical nomad warriors carried the new faith far and wide—to Iraq and beyond, to Egypt and all along the north coast of Africa and even into Europe. Some of his warriors moved across the Sahara into the grasslands. They mixed with local tribes, sometimes marrying, sometimes enslaving, them. The tribes were converted, gradually or by force, to the simple religion of the Prophet Mohammed.

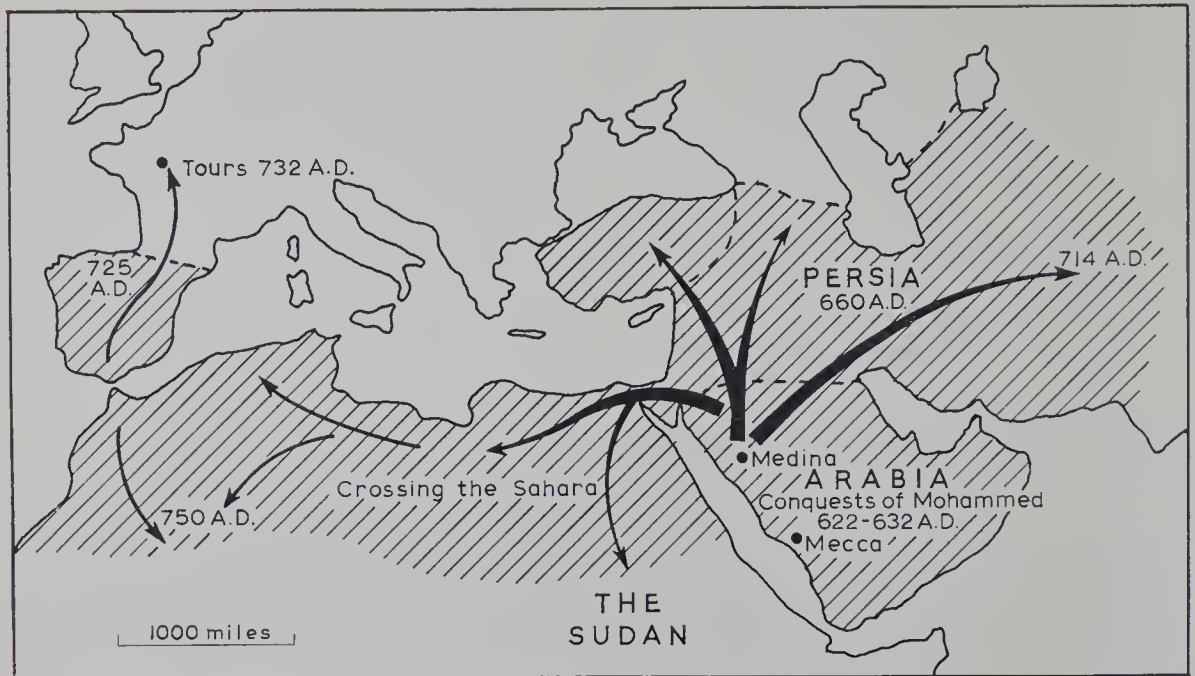


FIG. 4. *This map shows how the followers of the Prophet Mohammed spread the religion of Islam.*

The name of their religion, Islam, means “surrender” or “faith.” We call a follower of Mohammed a Moslem, meaning a faithful one. The sketch map above indicates very roughly the way in which the new religion spread through Medina from Mecca, the holy city of Arabia.

By the nineteenth century all the savanna of the Northern and Central Sudan was Moslem and many of the peoples across the 2,000 miles of savanna stretching to West Africa also became Moslems. During the previous centuries there had been much intermarrying, so that most of the Sudanese had acquired a good deal of African blood, but they always kept their language and religion as near to the original as possible.

The Moslem religion is well suited to a people who live a hard life. It is strict. It demands strong family and tribal loyalty. It requires people to be clean, self-controlled, friendly and hardy. You will learn more about it in later chapters.

In the Sudan the Moslems adopted many different ways of life. Some continued as nomads, living on the desert's edge. Some settled as cultivators near the rivers or wherever the rainfall was sufficient. Others went south and gave up their camels for cattle. Until the nineteenth century there was very little unified government in the Sudan.

The Anglo-Egyptian Period

In the nineteenth century Egyptian forces conquered the Sudan. First of all their aim was to get slaves, but later they tried to stop the slave trade, employing a courageous English general, George Gordon, to lead the campaign. There rose against him an equally brave and fanatical Sudanese leader, the Mahdi, who drove out the Egyptians. His troops killed Gordon.

In 1898 the British struck back. They did this partly in revenge

A modern mosque. The priest or muazzin calls the faithful to prayer from the tall minaret. Larger towns have loudspeakers installed in the tower. The interior is undecorated.



for Gordon's death, partly to extend their empire and partly to help the Egyptians. As a result of their conquests a new state was founded, the Anglo-Egyptian Sudan, which lasted until 1955. During this time the British took the predominant part in controlling and developing the country.

The Sudan was a very poor country, but the British were not aiming to make money. They wanted a peaceful, law-abiding land. Gradually they won the confidence of the Sudanese and trained them sufficiently to take over their own affairs in 1955. The making of laws and the control of police and army are not usually regarded as part of geography but they are necessary foundations for economic progress. Here are some other very important developments that took place in the Anglo-Egyptian Sudan and laid the foundations of a modern state.

1. A railway system was built at great cost, with huge bridges over the Nile.
2. An accurate survey of the whole country was carried out. Good maps are essential for good planning.
3. A great irrigation system was started in the Gezira which provides most of the Sudan's wealth in the form of cotton. Modern mechanical pumps were introduced in many places to irrigate land by the river.
4. A great port was built.
5. A widespread public health system was introduced.
6. An educational system was developed which culminated in the University of Khartoum. This was probably the most important development, because with it went the training of people in all the many skills needed to run a modern state.

Figure 2 on page 3 shows you the five main parts of the Sudan which this book will help you to study.

The Hamar (Chapter Three). These are the cultivators of the edge of the desert, struggling against the poverty of Nature to gain a living.

The Baqqara (Chapter Four). They represent the way of life of the nomadic peoples of the grassland, descendants of the Arab conquerors.

The Hamar and the Baqqara live in the vast, undeveloped plains of Kordofan and Darfur, to the west of the Nile.

The Gezira (Chapter Six). This is the greatest irrigation scheme in the Sudan. It is similar to other areas where water has been provided, either by large dams or small pumps, so that people can live comfortably and without fear of drought. The importance of water is the theme of these first three sections. It is the most important element in the lives of millions of people in the Middle East and Africa. It is always in the front of their minds, as these three chapters will show.

Port Sudan (Chapter Seven) and Khartoum (Chapter Eight) will show something of the life of town dwellers who provide the leadership of the country, either political or commercial. This is a sphere which is ever changing, but it is here that the "power-house" of the new state is found. Here the problems of the whole country are seen and here solutions are worked out.

CHAPTER THREE

ON THE EDGE OF THE DESERT

The Hamar

ON the southern edge of the desert live several tribes who spend much of the year wandering with their camels. They spend a few months each year by wells or by the river, but they have no chance to cultivate for the summer rain is never sufficient. These are the *nomads*. Farther south, where the rain is more, live tribes of *semi-nomads*.

The Hamar, who live north-west of El Obeid, are a good example. They have a few big villages where there is a permanent supply of well water, but they could not all live near these. So they also have many smaller villages which have temporary wells or which get enough rain-water for people to live for six or seven months. These are the centres of cultivation and gum collecting. Like the true nomads, the Hamar also spend part of the rainy season moving with their animals in search of grazing. But the settled life is easier and the people generally prefer it. In general, the more effectively they can store water and the more they can improve their wells the happier they are. We shall now visit one of these Hamar villages and see how they live.

There is a railway to El Obeid but it follows a roundabout route, so it is easier to fly from Khartoum. The air route crosses the White Nile, clearly marked with its strip of green vegetation, and passes to the north of the Jebel Aulia dam which stores water for farmers in




A town pool in the Hamar country which fills in the rainy season. Notice the storks in the trees, the shadow cast by the overhead sun and the market in the background.

Egypt. For an hour the scorched landscape of scattered bushes and dry grass lies below. Then El Obeid appears.

El Obeid is a maze of shabby-looking, mud-walled houses lining sandy roads. As it is June the pools about the town are dry. The Government has had to build a large reservoir to provide water when the natural pools run dry, for the wells cannot provide enough. In the dry country to the north, where the Hamar live, the camel is a common means of transport. Rather than use a lorry, which is much quicker, we take the opportunity of trying a camel.

Haj Abdullah pulls his camels down into a kneeling position and ties the forelegs with the head-rope to prevent them rising. Skins



A lorry stuck in soft sand. Notice the spiky acacia trees, the tall dry grass, the reserve fuel and water tanks, the number of passengers and the sheep.

of water and millet are tied to the saddle. As much as four hundred-weight will be carried by a good baggage camel. The journey is divided into short periods of travel to avoid the heat of midday. Most of the hard going is done before dawn (starting as early as 3 a.m.), and the camel driver is careful of his beast and will walk a good part of the way, rather than ride. Baggage camels walk and hardly ever trot and so they only cover, at most, twenty miles a day. Forty years ago caravans of several hundred camels passed out of El Obeid daily. Now the motor lorry has largely taken their place. The railway has also taken most of the long-distance traffic.

The camel's sudden rise into the air throws you violently forward and then backwards. If you succeed in holding your seat you settle your legs above the camel's neck and try to adjust yourself to the swaying motion. There are no reins, only a single rope to control the camel's direction. To do this you reach out to the right or the left with your arm. Generally, camels have a leader and will placidly follow behind the first camel in a line. They may be roped head to tail. Direction finding in the hours before dawn is sometimes done by the stars (the Plough and the Pole Star are good pointers), but in this part the track is clearly marked and well known to Haj Abdullah.

After the sun has been up for four hours it gets very hot. The glare from the sand makes your eyes burn and your tongue feel rough and dry. A halt is called for a rest under the shade of a group of acacia trees. The camels are hobbled by tying their forelegs and then they are allowed to find what food they can on the scattered thorn bushes. Midday prayers precede the meal. Then a fire is prepared from dead acacia branches and the pile is lit with a match, although some desert travellers still strike a spark with their knives on a piece of flint. Millet is mixed into a small flat cake with water and then cooked in the embers of the fire. This burned bread is scraped and eaten, being washed down with the rather tasty water which has been carried in the goatskins.

Near evening the end of the journey can be seen—a collection of grass huts with several baobab trees standing out strangely on the skyline like great grey bottles. The baobab, or *tebeldi*, is used in the battle against drought. The great trunk is hollowed out and in the ground near its base hollows are dug. When there is a rainstorm the owner of the tree rushes out with his whole family and water is baled out of the holes and poured down inside the trunk of the tree. Branches are bent down to form a natural ladder and then, when water is needed, the owner can mount the baobab, dip a bucket into his tree-well and lower as much as he needs by rope.

This village, which we shall call Um Howa, is about twenty miles



A Sudan policeman managing a camel with a single headrope.



Baling water out of a baobab tree with a leather bucket.

north-west of El Obeid. Unlike the houses in the more northerly Sudan, these are framed with poles; the walls are filled in with millet straw and then roofed over with an inverted funnel of thatched grass. The dogs bark loudly and almost at once someone comes to welcome the new arrival with, "Ahlan wa sahlan." This means, "Like the family, and easily," i.e., "Accept our hospitality as naturally as you would that of your own family." It is one of the many stock Arabic phrases of politeness. In the Moslem world a traveller is always welcome. Often the hospitality can be embarrassing because the stranger knows that

to refuse is ill-mannered, even though the host may be offering the last of his own supplies. It is surprising that, in a land where hunger is common, hospitality is more generous than in lands that know no want.

The camels are watered and the guest is shown to the group around the fire. Then he is introduced to the elder of the village, a courteous old man called Mohammed Rahma. A thick stew is produced, made with dry meat, millet porridge, beans, dried tomatoes, onions and garlic. This is all served on an aluminium tray and kept warm with a cosy made of raffia.

The men sit apart from the women. The traveller is questioned on his "news." News in this part is mainly concerned with other people nearby and their animals. For hours on end the men will

sit and gossip and from this talk they will gain a vast store of information about their relatives, about the movements of other tribes and sidelights on the character of the living and the dead. This is their way of learning about the history and the geography of their people.

Coffee is prepared while the talk goes on. The coffee beans are roasted whole in a dish over the fire and then crushed. Spice is added and the mixture is thrown into boiling water. This is poured in and out of the pot to mix it thoroughly. A little bundle of grass is pushed into the spout of the coffee-pot to act as a strainer and the coffee is poured out into small cups, already a quarter full of sugar.

In the early hours of the morning Mohammed Rahma calls out in a loud voice that it is time for prayers as the sun will soon be up. Prayers are a complicated ritual. First, the hands, face and feet are washed. Then there are the motions of bowing towards Mecca, alternately standing and kneeling, and reciting the prayers: "In the name of God, the Merciful, the Compassionate, God is most great; I testify that there is no god but God; I testify that Mohammed is the Prophet of God." Then a verse or more from the Koran is recited, perhaps: "Praise be to God, the Lord, the Great; the Merciful, the Compassionate; the Master of the Day of Fate. Thee we worship, and to Thee we pray; lead us in the straight and narrow way; the way of those on whom Thy grace is poured; not of those against whom Thou art angered, Lord; or of those who stray."

The morning meal is taken in the shelter of a grass fence which encloses the four huts which belong to Mohammed Rahma. Another dozen such family enclosures make up the village. The meal is almost invariably millet porridge and tea—tea served with a lot of sugar in small decorated glasses, but with no milk. Millet, or dura, is the staple food of the Sudan. The seed is stored in the ground, so that before it is used it is washed and the husks are cleaned off. Still damp, the seeds are ground into a coarse flour. Water is added and the mixture is set aside until, after a day or two, it begins to

bubble or ferment. It is ground again, mixed with an equal amount of water and made into a batter to make *kisra*, or pancake-like bread. The batter is spread thinly over a metal sheet heating on the fire. When cooked it is peeled off and two or three of these wafers are folded into a thicker oblong. To make porridge the mixture has more water added and it is cooked until it is fairly stiff.

The women spend the day cooking, grinding millet, getting water, dressing their hair or making mats, and sitting on their rope beds gossiping. The men also spend much of their time talking, though during the rainy months they are too busy for gossip. During July

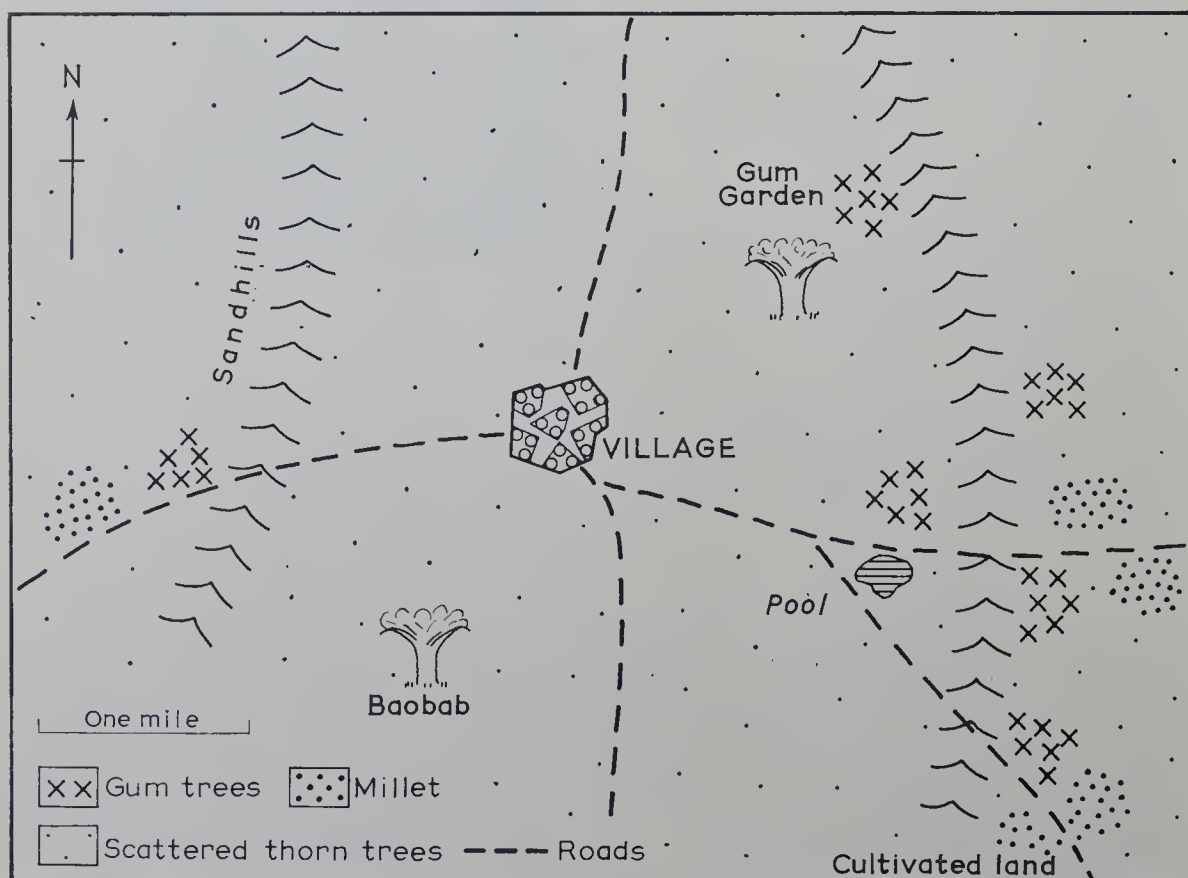


FIG. 5. Sketch map of a Hamar settlement. You could drive a lorry along the north-south road without much difficulty. Can you see why it is not so easy from east to west? Why cannot more people live in this empty land?

and August there is plenty of rain (four days of rain a week is common) and this water soaks down into the sand. Crops can now be grown in this sand. If the ground was clay the water would lie on the surface and would soon be evaporated by the heat of the sun. Seeds are planted in separate holes in the wet, firm sand. Any plant which can send down long roots can draw up all the water it needs.

There is plenty of land about the village. If a person wants to obtain land he applies to the *sheikh* of the village, who has power to allocate vacant plots. This land is for the owner's use but it still belongs to the tribe. The *sheikh* is an important person in any isolated settlement. In most parts of the Sudan elected councils are responsible for government, but in remote areas the *sheikh* collects taxes and keeps order on behalf of the Government. This was the way the whole Sudan was governed before the British introduced democratic local government.

It is fortunate that there is plenty of land. There is no rotation of crops and the soil is so sandy that after a few years' cultivation it is exhausted and the owner has to move to another site, but he still retains the old site. He will have been careful not to hoe out the seedlings of gum trees which have taken root among his crops, so that when he moves to new land he has on the old land a small collection of trees he can tap for gum arabic.

Rain Cultivation

The cultivated land is a mile or two from the village and the men use donkeys to take them there. They sit, with legs dangling, almost over the rear legs of the animal and they control its movements with a stick. The ears of the donkey are so sensitive that it will turn its head to avoid a touch from the stick (see page 48). A sandy track leads out of the village past a baobab tree which still holds drinking water. Women are carrying water in jars on their heads back to the village. Sometimes the trees dry completely and then the men will go by donkey a ten-mile journey to collect water from the nearest

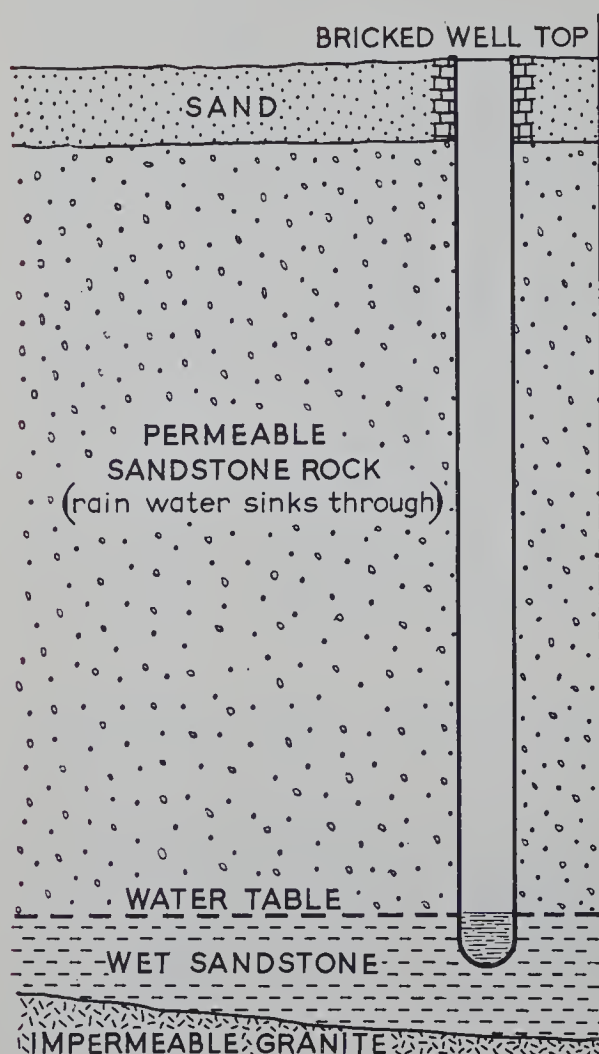


FIG. 6. *The water held by the impermeable granite fills up the bottom of the well when it is dug. This water may come from a huge area, so wells in the desert may contain water even after a long drought.*

wells. The cattle have already been sent away to these wells and will not return until the pools fill up again with rain-water.

Some villages have been fortunate in having permanent wells. A layer of clay or impermeable rock holds water sixty or seventy feet underground. Here an ordinary well can be built and this often accounts for the growth of the larger villages. But there is only limited grazing around these villages and that is why many Hamar have to travel far away. The Government is trying to improve the situation by drilling deep bore-

hole wells which may be three or four hundred feet deep. The water is pumped up by an oil engine. Water and grazing, together with millet and gum, are the foundations of Hamar life.

The landscape is lined with long sandhills silvered with grass and thorn trees whitened in the sun. The patches of cultivation are dotted about on the flatter land and are only about three or four acres in size. In November, a few months after the rains, tall hairy heads of bullrush millet rise above the straggling growths of water-melon, ground-nuts and sesame. Donkeys are hobbled and the

boys are sent to scare off the greedy weaver birds which perch on the millet stalks and feed on the ears of grain.

The men harvest the millet by cutting the heads of grain from the stalk with a knife. Later the ground-nuts (often called monkey nuts) will be pulled from the ground, where they grow like tiny potatoes. Millet is the main food crop of the village and it is stored for use throughout the year in deep holes dug in the sandy ground outside the village. Water-melons are grown to satisfy the thirst of the animals which remain during the drought. Gum, ground-nuts and sesame are grown to provide money to buy such things as tea and clothes. These are what are known as the *cash crops* of the area. Sesame grows as bushes which are cut and then stacked upright against a tree. The seed pods open when dry (so—"open sesame") and then the bush is turned over and the seeds shaken out on to a skin. These seeds are either sold to a merchant for export, or are pressed to make an oil which is used for cooking or as a skin balm to counter the drying effects of the sun.

During the midday break the men shelter from the sun in the shade of a group of small gum trees and they roast millet heads in a fire of millet straw. The millet grains are rubbed off into the hand and eaten hot, together with gulps of water drawn from a water-skin hanging from a tree. The fire is stamped out and carefully covered with sand. A spark could set alight to miles of tinder-dry vegetation. Trackways are often made very wide to act as fire-breaks.

During the winter Mohammed has been collecting gum from his gum trees. His gum garden is the "rain cultivation" which grew millet until three years ago, but which is now left to gum trees alone. Each tree is only about ten feet high. A narrow strip of bark is cut from the trunk and a little gum oozes out to seal the wound by hardening over it. After two weeks the small, yellowish lumps are scraped off with a strip of hard leather so that the tree is not damaged again. The tree goes on giving gum through the winter until about May and produces about ten pounds in weight altogether. When

the trees are exhausted, after years of "bleeding," they are dug up and millet is planted again.

The gum is taken into El Obeid gum market, which we may visit on our return to that city. The market is a fenced-off space in the town marked off with numbered posts every few yards. The gum is unloaded on to skins placed by one of these posts. Buyers come and examine the gum, note the number of the post and then bid for that number at the auction which follows. The auction is carried out in a large shed. The buyers sit in a pre-arranged order, then the auctioneer offers the gum at post number one to the first buyer. The other buyers are offered this lot in the order in which they are sitting and can make higher bids if they wish. The seller is asked if he agrees to the final and highest price. The gum at post number two is then offered to the second buyer.

The buyer is only an agent and he has been told what price to offer as his maximum by an employer who is probably a merchant in Khartoum or Port Sudan. The merchant in his turn will decide on the price he can afford by finding out how much people will be prepared to pay him to deliver the gum to England or to the United States of America. Gum arabic is in demand for stamps, envelope glue and for making sweets such as wine gums because, unlike many other gums, it is soluble in water. The merchant will have to keep in touch with the producers and with the buyers, but he cannot be everywhere himself, so there is a need of "middlemen" to do this work.

Summing Up

These Hamar people make a living from ground which looks empty, dry and barren. They reach deep into the ground for water. Their millet and ground-nuts, their sesame and melon plants search far into the sand to bring up last summer's moisture. The baobab trees keep water safe for them in their hollow trunks. The thorn trees lose no moisture when cut but seal the wound with gum. Anyone who has



Cutting gum trees. The white dress is typical of a tribal leader, with nightshirt length of cloth wound around neck and shoulders, turban and leather sandals. The quality of the grass is typical of the dry season.

travelled in this country soon learns to appreciate the simple pleasures of water, shade at noon and of crops safely stored. The people are wonderfully generous, but they must never be wasteful.

The coming of the rains is the most eagerly awaited part of their year. It is like spring in England, but much more sudden and much more joyful. The dry season has been long and hot and horrible. Then one day the clouds gather in the south. All hold their breath, hoping that they will not pass without rain. Down pours the rain, and at once the parched ground gives out the sweetest smell, and the temperature drops twenty degrees. The boys and girls come out

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and laugh and play in the pouring rain. The next morning—or the morning after that—there will be a delicate fuzz of green over the brown earth as the tiny grass-blades push up. The frogs, which have spent the summer sleeping in the dried mud of the pond, wake up and cry all day and night. The starving animals seem fat and happy already in anticipation of what is to come. The men rush out to sow their seed to make this a full year. Life has come again to this parched land of spiky trees and yellow dusty grass.

CHAPTER FOUR

IN THE GRASSLAND

The Baqqara

THE Hamar plan their lives so that they can live on the very minimum of water, but some Arabs are cattle herders and cattle need to have water at all times of the year. Such a people are the Baqqara (Arabic for "cattle owners") and they have to live a nomadic life, constantly on the move in search of water for their cattle.

The Baqqara live to the south-west of El Obeid. We shall travel the 250 miles to the Baqqara market town of Muglad by motor lorry. Muglad means "the muddy place." In the rainy season the cattle which pass through the town in great numbers churn the streets into a mire. It was so bad that the Rural District Council had to move its headquarters farther north, where there is sand. Our visit is in late September, at the end of the rainy season, and the land is drying. Even then we must be prepared for a day or two of delay if the roads should turn into mud again as a result of the occasional rainstorm.

The motor bus is a three-ton lorry imported from Britain. Above the driver's cab a large box-like roof rack has been added to hold sacks of grain, spare water and petrol, and even perhaps a coop of hens. The sides of the lorry are built up to a height of four feet with angle-iron bars so that passengers and goods will not jolt out. Progress is slow. Fifteen miles an hour is a good speed over a succession of grassy sandhills. The midday heat is avoided by travelling

early or late. Travel by motor lorry is uncomfortable (see page 14) but it is to be preferred to camel journeys because you can carry plenty of water and move as far in an hour as you can on a camel in a day.

Such a long journey will mean an overnight stop, probably at Dilling, and arrival at Muglad just before 11 a.m. If it is a Thursday there will be a market in progress. The *sug*, or market, at Muglad is pleasantly shaded by trees. It is one of the few places where the ground is dry enough in the wet season to sit down. In the square, surrounded by unwallled lean-to huts, is a crowd of talkative men, women and children, all intent on enjoying this holiday. The women wear blue robes with long head cloths drawn below the face and



Muglad market. Around the square are the shelters where traders sell carpets, jewellery and leather articles, while the nomads sit in the centre and sell millet and clarified butter. You can see leather grain bags, square butter tins and bowls made of gourds.

thrown over the shoulder. There is no veiling here and the women have much more freedom than in most Arab countries. The men wear white shirts over baggy, cotton trousers, and on their shaven heads they wear untidy turbans or small skull-caps.

A large number of Baqqara women have travelled far to be at this market to sell the butter which they have made. They sit in the market, chatting and reboiling the butter to drive off the surplus water. When they have made a sale they go shopping for soap, shoes, tea, coffee, sugar, condiments or, perhaps, even perfume and jewellery. Lying in the open also are rolls of fibre matting and heaps of millet. At one end of the *sug* are the workshops. Here, a row of poles supports a light cover of dried grass. In the shade of this roof a blacksmith squats on the floor before a tiny charcoal fire, blowing up the glowing coals with bellows as he turns a spear-head ready for hammering. Other smiths are making hoes, or shape house guttering from old petrol cans.

Against the white shirts it is noticeable that the faces are much darker in colour than those to be seen in Khartoum. When the Arabian nomads conquered these lands they married the prettiest women and sold the rest for slaves. So the people today have a large proportion of African blood. In the rains the clay soil of their new land became so wet and sticky that they had to abandon their camels and take up cattle as their means of living and transport. Their life changed little. They were still nomadic and all their wealth was still to be found in their animals. They despised the settled farmers, just as the nomads of the north do.

Hag Suleiman is a Baqqara herdsman who is now too old to spend the whole year on the move, so he lives for a part of the time in Muglad looking after his family's millet crop. He enjoys talking to visitors and can explain the movements of the Baqqara quite simply. With the point of his stick he will trace three circles in a line on the mud floor of his hut. "This is where my people are now," he says, pointing to the upper circle. "Here, in the middle, is Muglad.

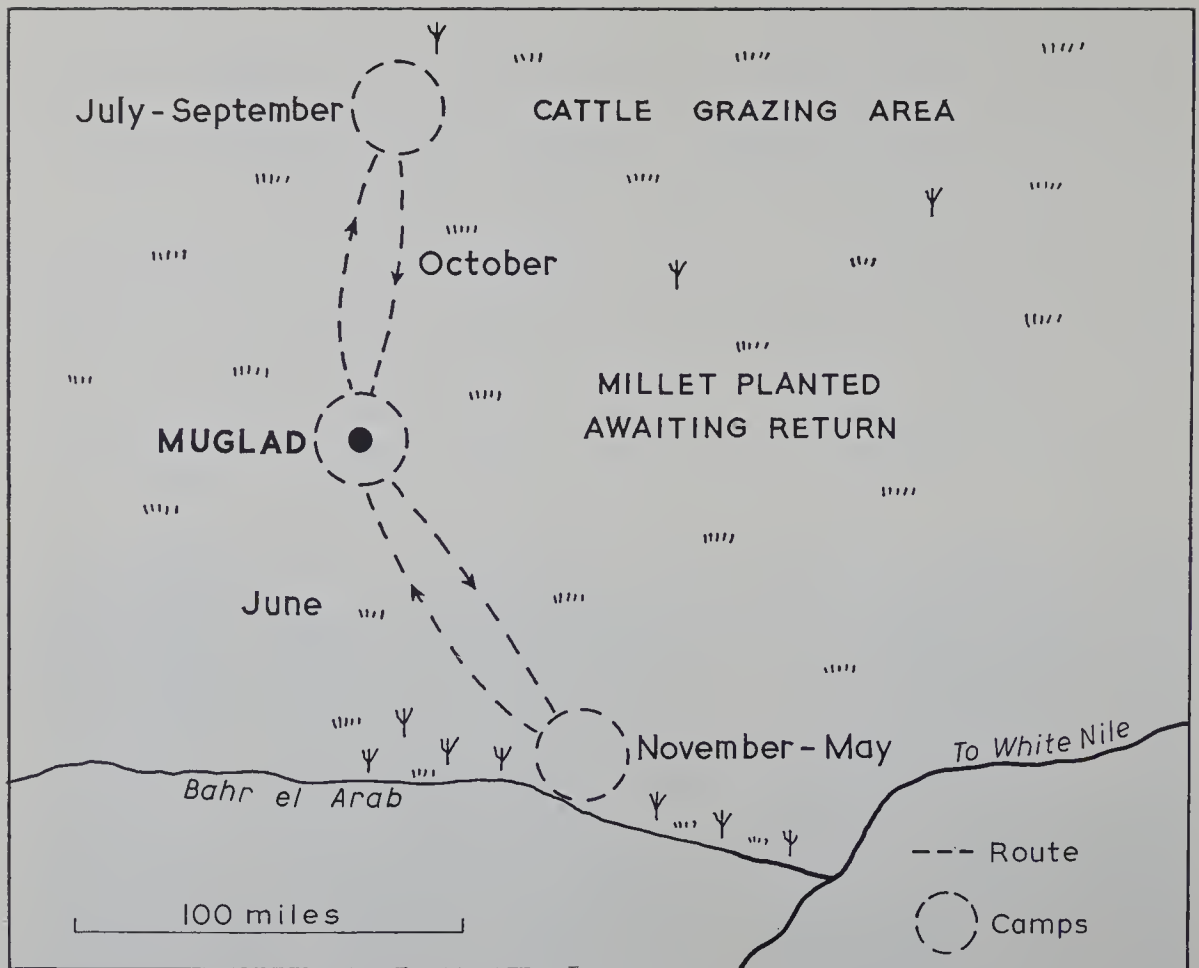


FIG. 7. Diagram showing the seasonal movement of the Baqqara

Some of our people come here early in the rains to work the land and plant millet. Others live here all the year and grow cotton, but they are not happy. The happy days are here (pointing to the lowest circle). Here is the hunting, here are fish in the pools of the dried-up river, and here is honey, got from the nearby Dinkas. This is the happy time, with plenty of good things. But when the rains come the tsetse and other biting flies drive us and our cattle mad, so we move north to the sandy land where there are no flies."

The Baqqara can only stay in the north for a few months, for when the rain-water lying in pools is exhausted they must travel south

again to the river country. Also, the land in the north is lacking in salt and the cattle soon crave for it so much that they eat sweat-covered clothes and stamp out fires to get the salt from wood ash. It would be a good idea to see something of Hag Suleiman's people while they are still close at hand to the north of Muglad.

The Northern Camp Grounds

The journey takes us past bore wells and tanks of drinking water on the edge of the town, pools of rain-water and low ridges of red-brown sand. The gardens of millet are on these sandy ridges and the holdings, with their temporary huts, seem to extend for miles out into the rolling landscape. Beyond this the dusty ground is dotted with thorn trees.

It takes two days to reach Hag Suleiman's camp. It consists of eight round tent-like shelters made of woven palm-fronds placed in a rough circle. At night the cattle are gathered inside this circle.



A Baqqara camp showing a shelter covered with ready-made matting and another having straw woven into it. The lean-to is to provide shade from the sun. The grass is rich and short as this is the beginning of the rainy season.

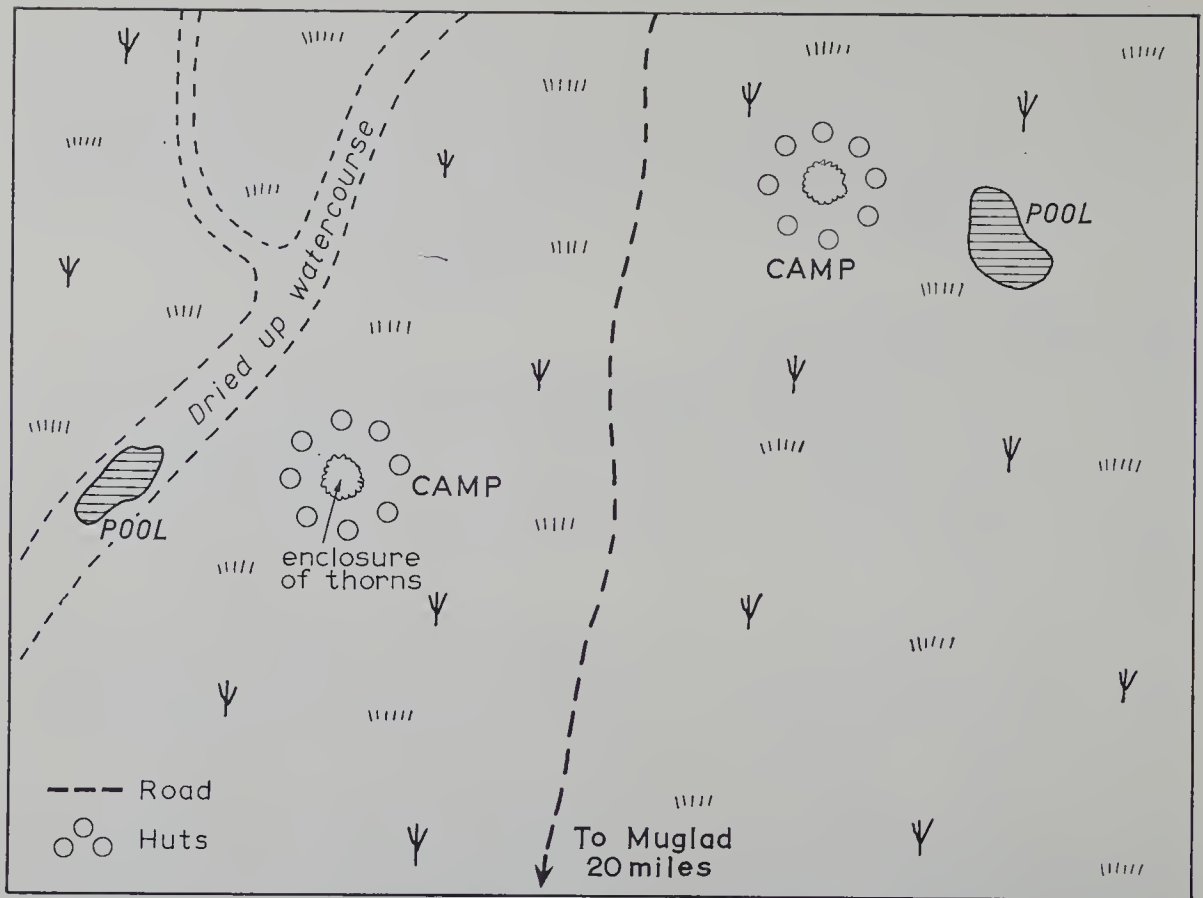


FIG. 8. Sketch of Baqqara camps

The women and young children sleep inside the tents; the men sleep under the shelter of a tree. In the midst of the cattle and the tents the calves are enclosed by a thorn barricade or *zeriba*. This is a protection against the lions, but it also serves to prevent the calves drinking their mothers' milk. There is a fire at each tent which is kept going at night to frighten away wild animals.

In the morning the fires are fanned into life and a porridge of ground millet is cooked over them. The men eat separately, at their tree, and wash down the meal with a bowl of milk. After breakfast the boys and the women milk the cows. Each cow gives only one or two pints of milk and more than half seem to be dry. The calves have what milk is left. Later the boys exercise the well-grown bull

calves by riding them around the camp. These animals have to be broken in to the task of carrying baggage and people, for few Baqqara own horses to ride.

At mid-morning the boys gather the dogs and drive the cattle out to grazing. The grass around the camp was eaten soon after they arrived on this site, so now the boys have to drive the animals out to fresh pastures and go farther afield every day. Three hours of slow movement and wayside grazing bring them to a small pool. The cattle drink and settle to digest their fodder. The boys take the opportunity to splash about in the water. The water stays in this basin-shaped depression because of the clay bottom. When all these pools evaporate the Baqqara will move south, back to the river land of the Bahr el Arab.

Meanwhile, in the camp, the men are lazing in the shade of a tree. There is the dull, regular thump as the women pound millet in a hollow log with a long pole. Later the crushed seed will be ground into flour between two stones. Other women are making clear butter. Milk is put into a leather bag or into a gourd and hung from a tripod. This is twirled around until it solidifies. The water or whey is poured off and the butter is boiled to drive off any surplus moisture. When this butter hardens it is like a clear ointment. Because it has been cooked on an open fire, this butter has a smoky taste and is usually a bit rancid. Most Sudanese like this taste, rather as we like the smoky taste of kippers.

In the afternoon the tents are moved about a hundred yards because the ground has become fouled by the cattle. The women do this because the tents belong to them, as do all the other possessions of the family. The man owns little, perhaps nothing besides his cattle, a ten-foot spear (with a quiver of short spears and a large spear-head for elephant hunting), a bed and the clothes he stands in. A well-to-do young man may own a horse and perhaps a gun. Tent moving is a simple operation because each tent only consists of supple sticks bent into an arch and covered with palm matting. On the



The inside of a Baqqara shelter. On the bed platform is a tin trunk for valuables and some matting which will be unrolled to cover the frame. Notice the ostrich-egg charm, the drum, the butter churn and the large square beads around the boy's neck to protect him from the "evil eye".

very top is a goat's skin to keep out the heaviest rain. The space inside the tent is just large enough to hold a bed. This consists of a lashed oblong frame with strings stretched across to hold a palm mat. Stacked in the corners are iron cooking pots, gourds, a teapot, trinkets and glasses in a tin box and spare clothes.

The boys return with the cattle in the late afternoon. They play a game like draughts and a sort of solitaire in the sand with pebbles. The more lively ones will practise throwing a spear through a quoit rolled along the ground. The men are still sitting beneath their tree. Some will be plaiting a rope from the bark of the baobab

tree, others will be repairing the thongs of their sandals (a thong passes between the big and second toes and divides at the instep to join the sole on each side). Most of the men will be talking of hunting adventures or just gossiping.

After the evening meal the boys and girls come over from a nearby camp for a dance. There are many such family camps in the area. This one is made up of eight families, all brothers, sons and grandsons of Suleiman. He is not a chief, but he heads the camp because he has the most cattle and because he has been on a pilgrimage to Mecca. Suleiman has 70 head of cattle, but most of the men have only between 15 and 25 beasts. Altogether there are 200 animals and 40 people in the camp. The camps are all of one tribe, which is headed by a tribal chief, or *Nazir*, who lives in Muglad during the wet season so that he can collect the taxes and settle disputes.

Men earn some of the money for taxes by hunting. They also grow cotton in the river country for this purpose, but the flies and the dull, stationary life soon make them yearn for the open country. It is more fun to earn the small amount of money they need by elephant hunting. For such a hunt half a dozen horsemen will set out from the northern camp site, where they seldom have anything to do, collect a hunting permit at Muglad and then ride south for several hundred miles to the river country. They will carry a little millet and some tea and sugar wrapped in skin bags. These are their rations for over a month unless they can kill some fresh game such as gazelle or quail.

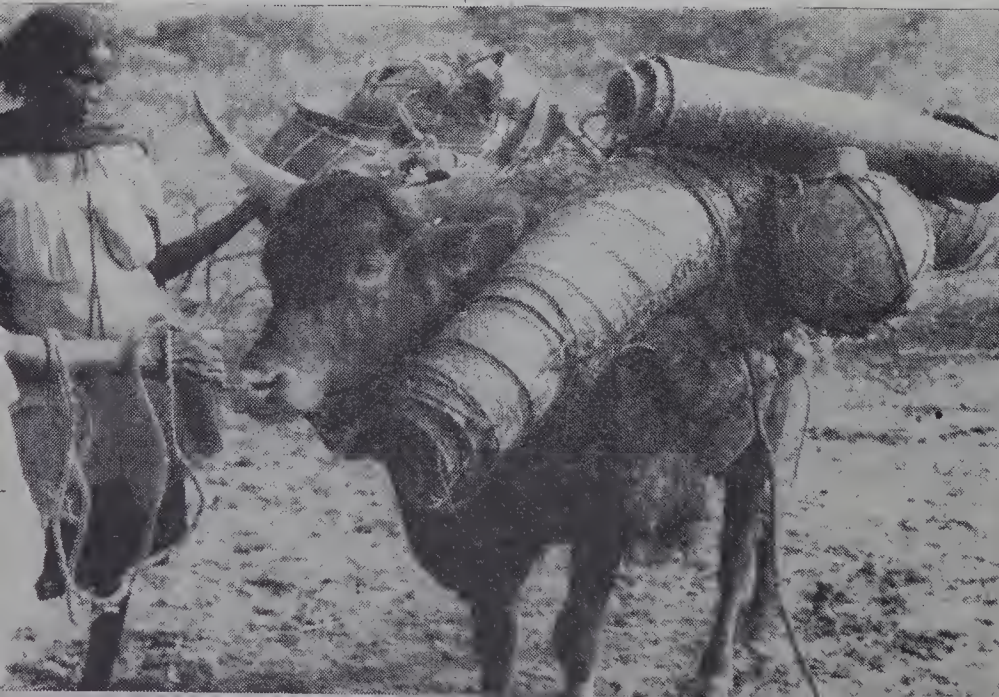
As soon as a herd of elephant is sighted the men will charge at it on horseback. The herd moves off at a clumsy trot. One hunter then gallops past and hurls a spear into the best tusker. While the elephant is fully occupied watching this attacker a few hunters will approach from the rear and cut into the tendons at the back of the elephant's legs. This causes the beast to limp and drop behind the still trotting herd so that the hunters can then attack him at leisure and without so much danger. Each attack will mean the loss of a

little more blood, so that finally the animal drops through lack of blood. The end may take many hours. The meat is cut up on the spot and the hunters gorge themselves on it for several days. The tusks are carried back to Muglad for sale as soon as the men have recovered from their feasting. A big tusk may be worth £100 in the market and this should cover the taxes of the party.

The Journey South

In October the Baqqara start to move south. The clouds have gone from the sky and the sun burns down so that the grass is yellow and withered. Now is the time to move to Muglad, harvest what remains of the millet, buy supplies and then trek across the dry country to the south of the town to get to the waters of the river Bahr el Arab.

Early in the morning of the move the women pack the tents and load them on to the bulls, using the bed as a sort of saddle. Pots and rolls of matting are piled on top. Everyone is cheerfully looking forward to a couple of weeks in Muglad and the holiday atmosphere of the south. Suleiman pronounces, "In the name of God, the Merciful, the Compassionate," to bring good fortune to the journey; the women and children climb up on top of the household goods and urge the bulls forward. The men follow, with the cattle, also mounted on bulls if they are unable to afford horses.



A loaded bull. The saddle in this case is made of wooden forks wedged on grass matting.

*A Baqqara family moving
north from Muglad.*



One of the young men rides ahead to find a waterhole for the night's camp that is not already occupied or dry. In the late afternoon, after covering twenty miles, a pool is reached. The bulls are unloaded, the cattle are taken out to graze and the women prepare another millet-porridge meal. This is a more interesting meal because meat has been added to the porridge, together with a sauce of red peppers. This is the first time that meat has been eaten in the last two weeks. To the Baqqara cattle are wealth—"silver with hair"—and no beast is slaughtered unless it is about to die. They are lucky today as one animal has dropped down with exhaustion. The meat that is not eaten at the evening feast will be dried in the sun and kept like a bundle of old leather laces for future stews.

The following day the caravan will move off again. Very often the women and the transport bulls will plod steadily on in a straight line, while the herd (which is faster) is driven on a zigzag course in search of grass. Both groups may stay apart for several weeks. This time the men are without their wives to cook for them and they have to learn to live on milk and what they can catch.

Suleiman's camp stays at Muglad for two weeks and then moves south to the river country. The flat river land is dark grey with cracking clay; the rivers, except for the main Bahr el Arab, are dry. There will be a few pools still in the river beds, but as these dry up

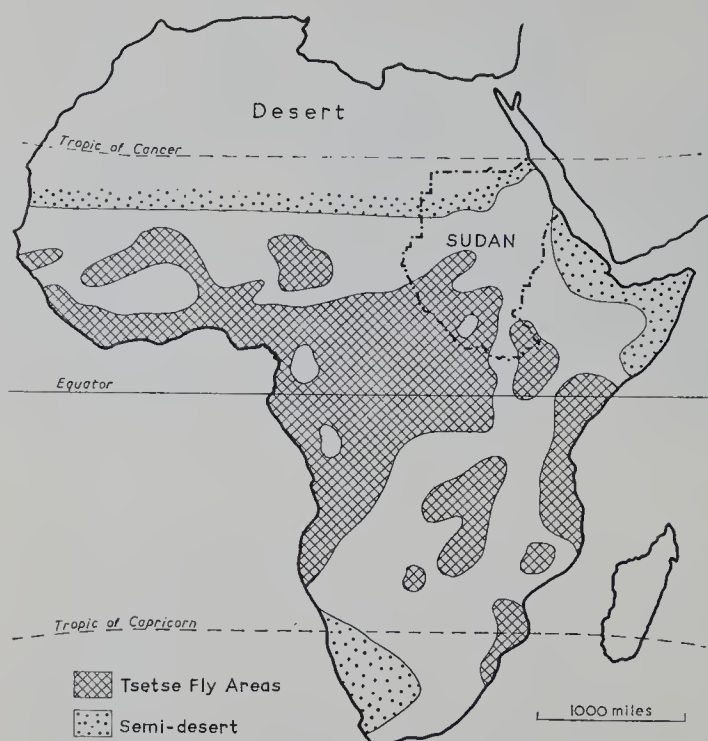


FIG. 9. *The distribution of tsetse fly in Africa. The fly is rather like a large house-fly. It carries the disease of sleeping sickness which can be fatal to humans, and another disease, trypanosomiasis, which kills cattle. The fly thrives in valleys and bush country. Wild game can be affected and spread the parasites as well as people and cattle.*

wells will have to be dug. When the rains come again in May the cattle have to be moved north again, this time more slowly because there are fish to be caught in the rivers which are a valuable addition to food. The cattle stay a few weeks near Muglad again to manure the family's land ready for the planting of millet. Soon it becomes too muddy and fly-ridden and they have to move north again to the sandy country, reaching it in July.

Most Baqqara settle easily to a short spell of farming. But to find true farmers we should go east to the plain of the Gezira which lies between the Blue and White Niles. This is one of the rare places in the savanna where intensive farming can be practised. Such farming is common in England, but in the Sudan water, skill and capital are scarce. In the next chapter we shall see how the Government have used modern methods to overcome these scarcities.

CHAPTER FIVE

PRIMING THE PUMP

THE tribes living in the northern savanna lands on the edge of the desert spend nearly all their energies in keeping themselves alive. They contribute very little to the national wealth. This is not entirely because the soil and the rainfall are so poor. The people have lived this sort of life for centuries and they have little desire for change. Because they produce so little they pay very little in taxes. The governments of the new African states find it difficult to carry out expensive projects to raise the standard of living because they receive so little in taxes.

Improvements in education, an efficient health scheme, direct aid to agriculture and irrigation would help to raise the standard of living, which in turn would produce more tax income for further improvements. This movement, once started, would bring benefit to everyone. The problem is to get it started. To start a pump you sometimes have to “prime” it or put water on the plunger. With this small amount of water you can start the pump, which will then draw up its own supply of water from the well. To “prime the pump” in the savanna lands we need to start money flowing first.

Some countries can start this movement of wealth because they have valuable minerals which they can get foreign companies to mine.

Another method is to increase taxation so that the Government has enough money for improvements and this also forces the people to devise ways of earning more money. Kordofan has no mineral wealth, nor would the Government like to increase taxes on the Baqqara and the Hamar. Most of these people are cattle owners and meat-canning factories were built to enable them to sell their animals. This project failed to produce more money for circulation. The Baqqara were unwilling to sell their livestock because the animals were their sign of wealth. They would no more think of selling a cow than we would of selling a £1 note.

Because the Government has drilled hundreds of new wells the number of cattle is increasing all the time, but the quality of the animals is still low. The method of herding them together results in the spread of disease and prevents the controlled breeding that would improve the stock. Overstocking also means that more grass is being eaten than is good for the land. The production of poor animals does not worry the Baqqara as long as they have large numbers to prove how wealthy they are.

It would seem that the only chance of success in improving the nation's wealth is by producing more crops. In the Sudan not even 1 per cent. of the land is under cultivation, whereas in France the figure is nearer 40 per cent. As we have seen, the shortage of water is one reason for this. To "prime the pump" the Government decided to increase the cultivated land. To do this more water had to be made available, both for drinking and irrigation.

Dams for storing water and irrigation canals for distributing it cost a lot of money. As there is so little money it would seem reasonable for the Government to control very carefully the way it is spent. This meant controlling the farmer who makes use of the irrigated land. And yet, though the farmer may lack education and experience to make the best use of his land, it was undesirable for the Government to exercise so much control over him that he felt that he was only a paid servant and not a real farmer. Farmers working

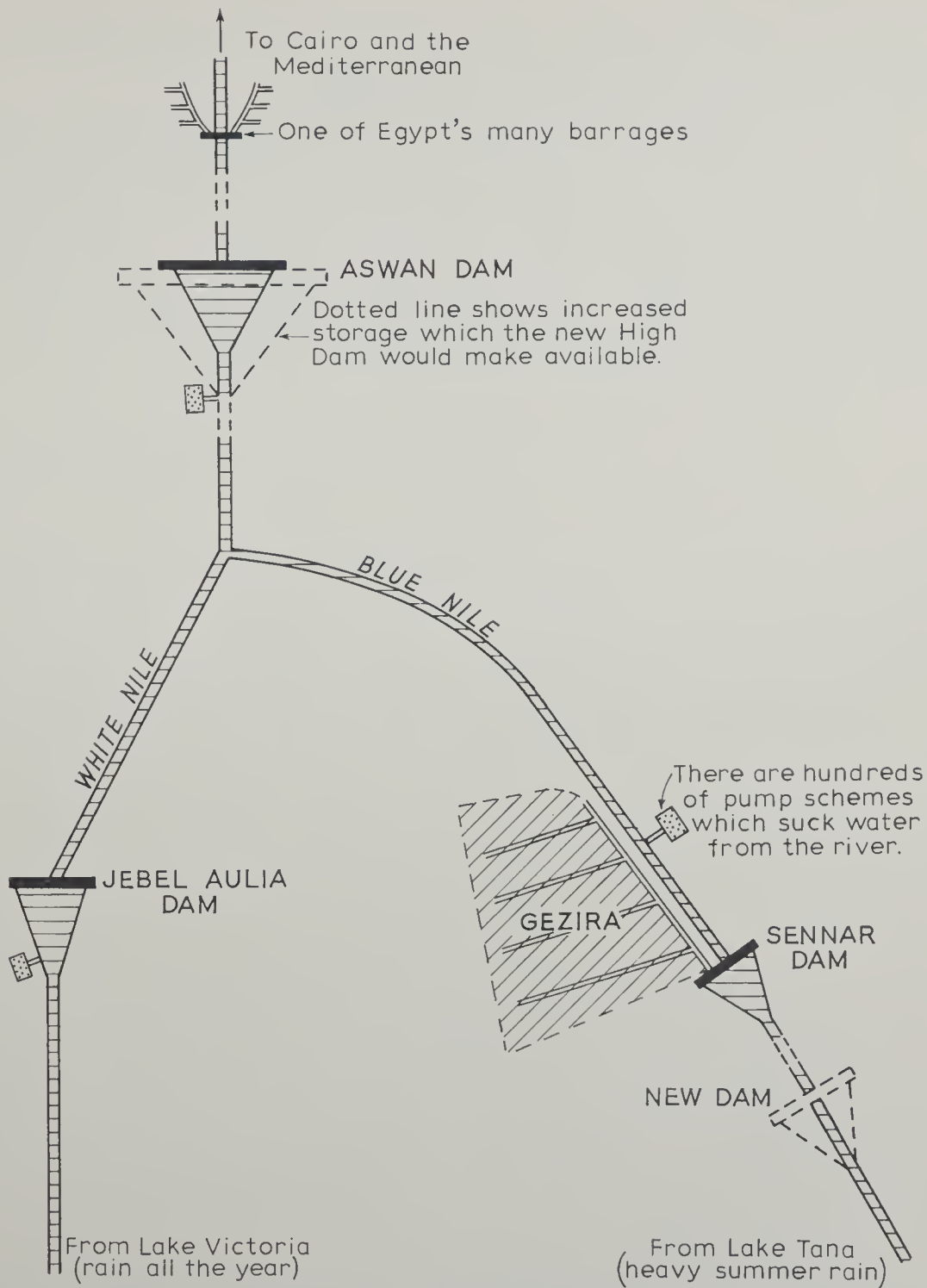


FIG. 10. A diagram showing some of the main water-storage schemes on the Nile

for their own profit would work harder than those who felt that they were labourers for a government department.

The Government of the Sudan has tried to provide water without taking the people's freedom. The farmer works for his own profit but the Government provides the money for expensive irrigation schemes and the trained staff to advise on what to grow, what to avoid and where to sell. This partnership between the State and the farmer in large-scale irrigation agriculture is the basis of the Gezira Scheme described in the next chapter.

CHAPTER SIX

MAKING THE GRASSLANDS PAY

The Gezira

WE have seen that great new schemes to increase production are best run by the State *and* the farmers, but the money to start such schemes is never easy to obtain. Poor, undeveloped countries like the Sudan need to encourage foreign companies to provide this capital. These countries have often only just obtained their political freedom and, as they do not want to lose their financial freedom to outsiders, they want capital funds quickly. Sometimes they have taken a short cut by nationalising any foreign industry in their land which may be making large profits. The result is that foreign firms are wary of risking their investments. It is not easy therefore to get large foreign loans without making promises of security.

Many people feel that the answer to this problem is to be found in the Gezira scheme. Here a foreign company provided the money and the knowledge to set up a great irrigation system. The company was able to make a satisfactory profit without fear of losing its money. Yet it handed over the scheme to the Sudan Government when it had recovered its original investment. The Government, with little cost to itself, had time to train Sudanese to run the scheme and it was able to take over a profitable “going concern” when all the teething troubles were removed. This concern is one of the largest

single agricultural undertakings in the world and we will now study its development.

The British officials who administered the Sudan on behalf of Egypt at the beginning of the century soon realised that the country would always be poor unless money was spent on irrigation and railways. Although the money was not then available they started at once to investigate the best ways of spending it. British engineers who had built the dam system of Egypt explored the upper reaches of the Nile and calculated the amount of flood water which came down in an average year. They knew that, as a result of the heavy rains in Ethiopia, fifteen times as much water came down the Blue Nile in August as in April. Yet on the great plain of the Gezira, near this river, there were people hungry through lack of water. These people relied upon planting a quick crop of millet in the short rainy season and if this rain did not come at the right time they starved. If part of the vast amount of river flood-water could be stored and diverted to the Gezira plain this dry area could become the most productive area of the Sudan. But the money for these schemes was hard to raise.

The Syndicate

The growing of long-staple cotton was found to be very profitable because the demand was increasing and Egypt and the U.S.A. could not satisfy it. The Government decided to plant 600 acres of cotton on the Gezira. It soon became obvious that, to make any profit, much more would have to be grown. In 1912 the Government asked a private company, the Sudan Plantations Syndicate, to manage its cotton land. Here, in the Gezira, were over three million acres of good land just waiting for water. Why not form a combine of the Syndicate and the Government and farm it all? The old engineers' reports on the Blue Nile were brought out. A dam at Sennar would store all the flood water of this river and make it available for irrigation. From the river the land sloped gently downhill so there



would be no great expense in getting the water to the crops. The Government moved carefully; it did not want to put the Sudanese people in the hands of a big private company nor did it want the people's lack of training in large-scale agriculture to ruin the scheme. So control was necessary.

The land in the Gezira was rented from the original owners and then handed over to tenants (often the same owners) in forty-acre plots. This was not to be a plantation where workers were hired by one employer, nor was it to be a State collective farm where all the profits are pooled and the lazy get as much as the hard-working. The land was to be reissued to the tenant every year only if he was farming it properly. Each tenant was to be his own master and, because he could not buy extra plots from the Government, it was not possible for a few wealthy men to control most of the land. The benefits of watered land were to be spread among as many peasants as possible. The shareholders of the foreign company were also to get a part of the profits every year and when they had been repaid, with a good bonus, the whole project would eventually become the property of the Sudanese Government.

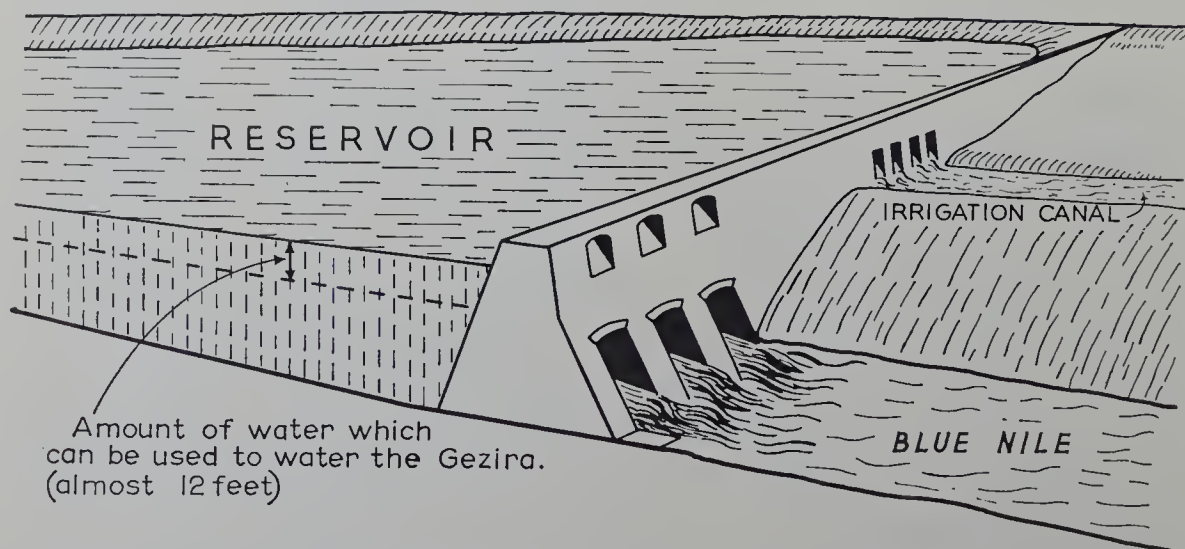
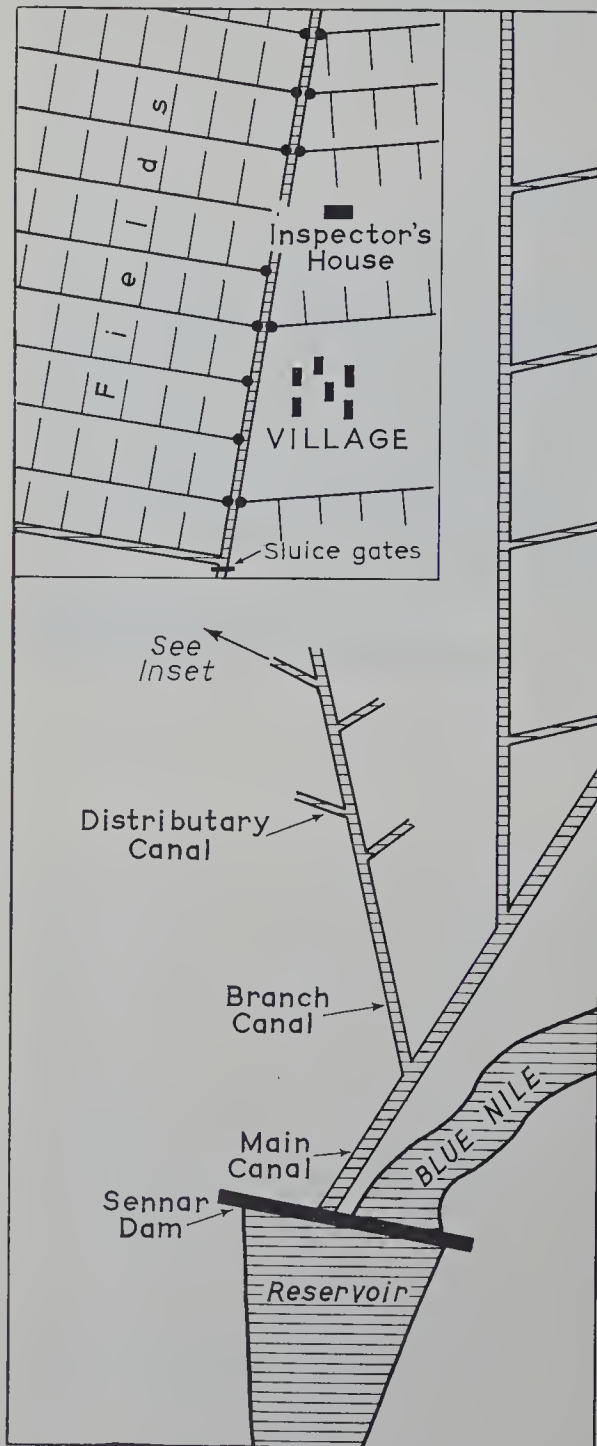


FIG. 12. *Diagram of the Sennar Dam. The dam has to raise the level of the river water 41 feet before it will flow down the irrigation canal.*



The Sennar Dam. The main irrigation canal is in the foreground and the cranes used for lifting the floodgates can just be seen on the dam. The reservoir is two miles wide at this point.

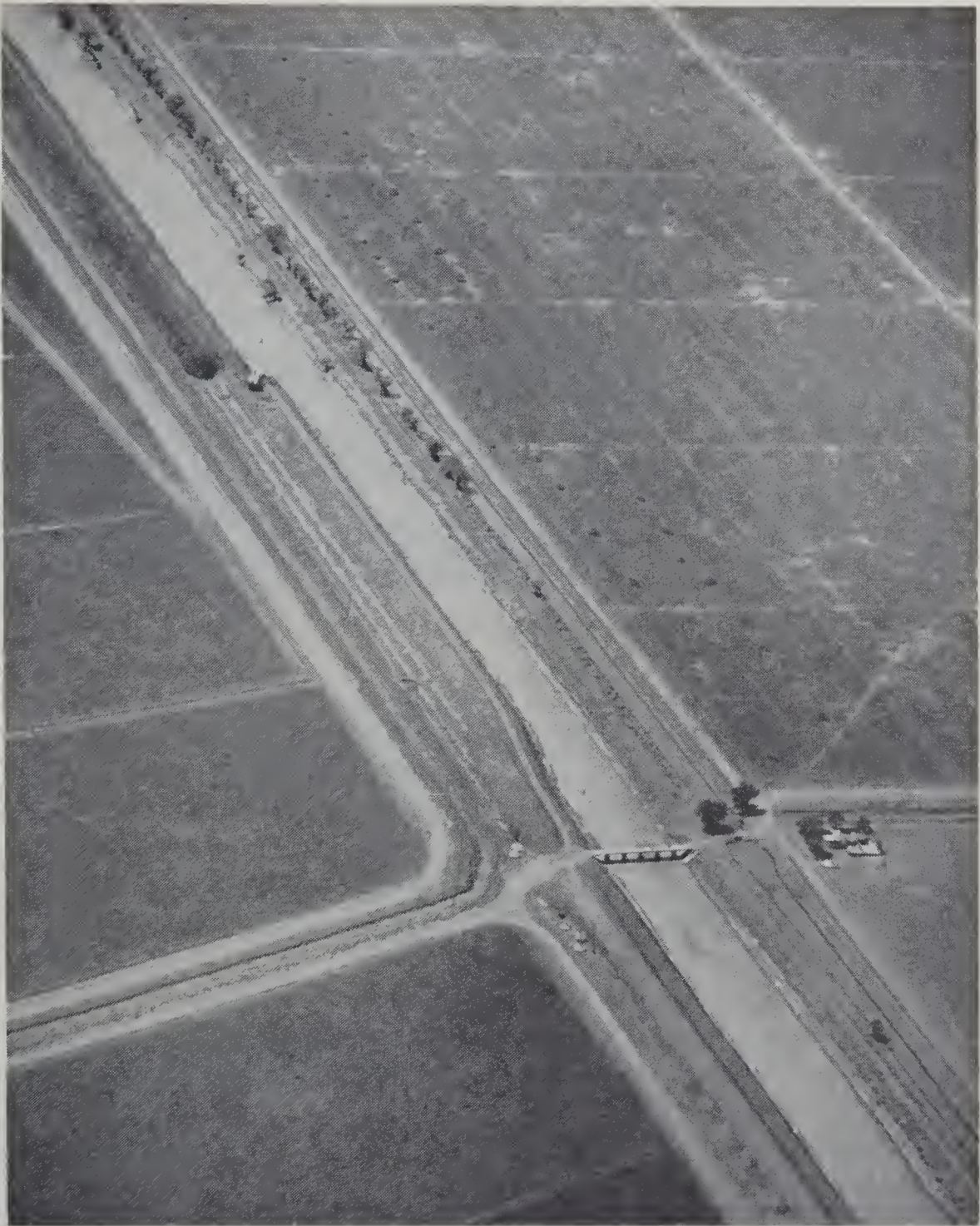
With the money that was raised, partly by the Government and partly by private companies, a great two-mile dam was built across the Blue Nile at Sennar. This dam is the key to the whole Gezira scheme. In June heavy rains start to fall in Ethiopia where the Blue Nile rises. A few weeks later the first flood waters reach Sennar. The main dam is then closed so that a huge lake begins to collect behind. It is not immediately filled to the top but high enough to allow water to flow into the main canal of the Gezira (above). Look at the diagram (Figure 12). This is the moment when cotton cultivation can really start. The irrigation engineers do not fill the reservoir right up to the top till late October. The reason for this is that the early flood waters carry vast quantities of silt. It has been calculated that a never-ending train of railway wagons would only carry a quarter of the silt which the Blue Nile carries. When the dam is closed, some of the silt is bound to drop to the bottom



and this very gradually reduces the volume of the dam. As far as possible, therefore, it is best to store the water from the late flood when there is very little silt. So in October the gates of the main dam and of the canal are closed and the reservoir fills right up.

The diagram shows clearly that it is only the top twelve feet of the stored water which could flow on to the Gezira plain. The lower water is released in December and goes to help Egypt during its driest period. The top twelve feet of "Sudan" water does not sound very much, but it creates an artificial lake over a hundred miles long. There is enough water in it to put three feet in depth of water on every one of the half-million acres growing cotton in the Gezira scheme. This is in fact what happens, though of course the water is not all let out at once. Every fortnight a depth of four inches

FIG. 13. Diagram showing how the stored water gets to the fields. The inset map shows part of the area in more detail on a larger scale.



The “ straight lines ” of the Gezira. The main canal is being enlarged. The shortage of trees is obvious.

THE SUDAN

is released on to each cotton field. About twenty thousand tenants are supplied in this way and their plots are linked to the main canal by four thousand miles of branch canals.

What does the tenant pay for services costing so many millions of pounds? He gets the water he needs, four ten-acre fields, free use of tools and machinery, advice and expert attention for his agricultural problems and the finest welfare services in the country, in return for growing ten acres of cotton. He gets just under half the profits of the sale of this cotton; the Government gets the rest. This cotton has brought wealth to the Sudan and made it possible to start many other schemes, including a 600,000-acre extension of the irrigated land. This cotton produces four times the value of all the Sudan's other exports added together. The Gezira tenants are important citizens of the new Sudan. Let us take a closer look at one of them; his name is Ahmed and he lives in the village of Abu Ushur.

A Gezira Tenant

At one time, before irrigation, Ahmed's family owned 700 acres of land in the Gezira. Now he has on lease only forty acres, but the Government pays him rent for all the land it has taken over from him for others to farm. But he gets much more from the forty acres. In one of the best years (1951) the profit for an average tenant from the sale of cotton was £800—ten times what he could hope to earn before. The greatest change for Ahmed can be measured by a bad

A Gezira tenant looking over his fields. He guides the donkey with a stick for its ears are very sensitive. The watering channels are clearly seen and also the earth ridges which retain the irrigation water.





Where the soil is heavy two stationary steam engines pull a weighted plough back and forth over the land.

year when cotton is not fetching a high price. Whereas, in the old days, he would be near starvation when there was no water for his millet, now he always has water for this crop and he will be able to feed his family even when he is short of money. The Government allows him to grow five acres of millet for himself and two and a half acres of fodder beans for his livestock, so that he will not be entirely dependent upon cotton. In fact, the Government will not let him become a specialist in cotton as this is bad for the land.

Cotton takes a lot from the soil because it is growing for eight months. Half of the land must be left fallow to rest, and animals must be turned on to the fields to eat the millet straw and the finished cotton plants and so manure the land for a future cotton crop. To see that he keeps to these simple rules there is a field inspector supervising each group of tenants.

The inspector controls the rationing of water and this task is

a vital one. Most of the planting has to be done in August, and with so many thousands of acres to be watered the inspector has to hustle Ahmed with his preparations. Channels run from the branch canal to each field. Smaller channels have to be constructed across the fields. Earth banks are put up to prevent the water running away. When he has finished Ahmed has divided his forty acres into 192 little plots. Ridges are prepared on which the cotton bushes will be planted. The inspector then allows him to open the pipe joining the channels to the canal. The land is then watered and made ready for the cotton crop. A quarter of a million acres of cotton have to be planted within three weeks and so the daily ten million tons of water have to be distributed according to a complicated time-table. Ahmed makes holes every two feet along the ridges with a stick which he presses in with his foot. Kamil, his son, follows behind throwing half a dozen cotton seeds in each hole and stamps the soil on top. Other members of the family and paid workers also help.

The whole fifteen acres of cotton and millet have to be weeded regularly. After each week's watering the cotton has to be ridged and the banks holding the water are repaired. The cotton plants need thinning so that there are only a couple of strong shoots in each hole. Then fodder beans have to be planted in other plots before the cotton needs further attention. If the rains come late the whole plan may become upset. Cotton plants damaged by the rain may need re-sowing and then the irrigation water must be diverted.

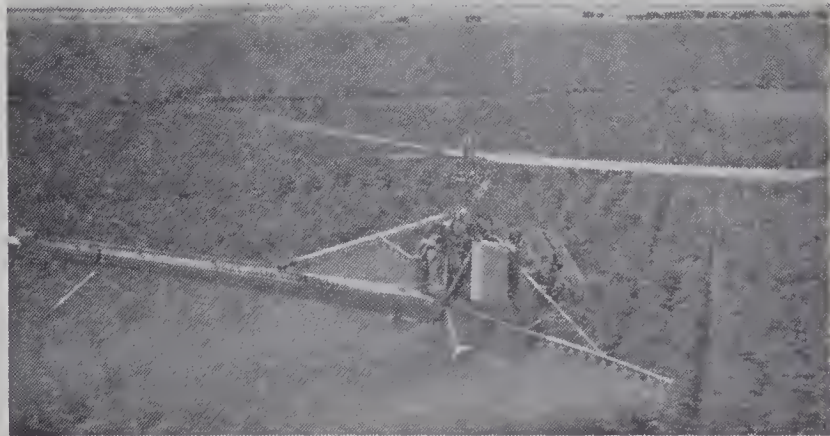
With October the hectic pace begins to slow. The cotton is watered only every ten days. There is time to weed the roadways and drainage channels. Kamil is told to bale water out of the ditches with an old tin so that mosquitoes cannot breed and spread malaria. The other boys—Mohammed, Mahdi and Abdu—are put on to weeding with stick-like hoes. The cotton is sprayed by the Government against fly infection and tractors are provided to plough the fallow land so that it is ready for next year's crop. In November

Hoeing cotton with a typical short-handled hoe. The ridges intended for young plants can be seen on the right. The tenant is wearing well-made leather sandals, a nightshirt and a close-fitting skull-cap, which he has probably embroidered himself.



Hoeing weeds from the cotton plants with sticks. Notice the European vest and shorts worn by the boys and the tall millet crop in the background. This is part of a school farm.

Spraying cotton from the air. Beyond the group of mud huts, the barren, unwatered plain can be seen.





The cotton flower



A fully opened cotton boll, about the size of a small apple.

the weather gets cooler and the watering is only done every sixteen days. The large millet heads are cut and the straw is stacked in great piles, a common feature of the winter scene. The stubble is left for the animals to graze over.

Most weddings and parties take place after the millet harvest, for there is not much to do until January, when the cotton should be ready. The boll, or fruit of the cotton plant, ripens and bursts into a white fluff. Ahmed collects sacks marked with his number from the Government store and begins to hire labourers. Pilgrims on their way to Mecca in Arabia, sometimes from as far afield as Gambia in West Africa, stop in the Gezira to earn a little money for the journey. The picked cotton is packed well down in man-high sacks and then carried by camel to the ginnery. The cotton is graded and weighed and a receipt given; against this Ahmed can borrow money to pay the labourers. The balance of the money is



Carrying sacks of cotton to the ginnery. The dark patch on the roadway is a leak from the canal just beyond it.

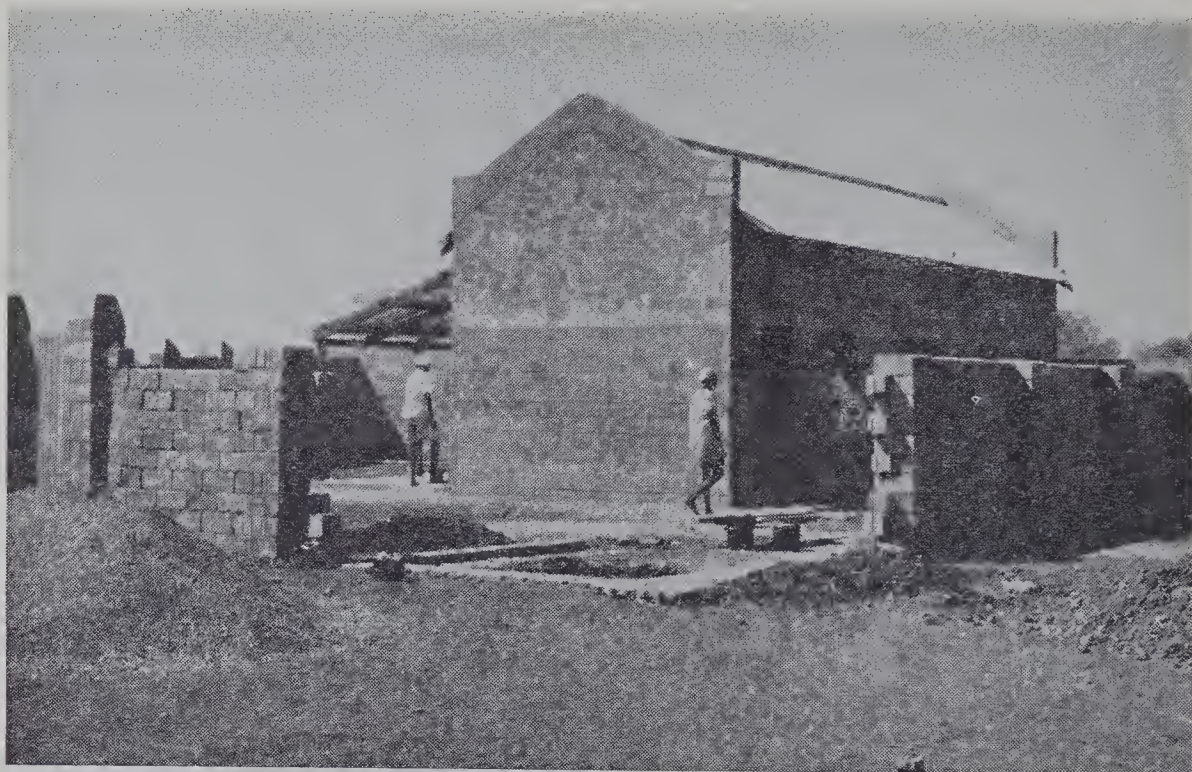
paid when the cotton is sold, but Ahmed may not get this until a year later.

At the Government ginning factory the cotton is separated from the seed by putting it through machines in which rough leather flaps drag the cotton fibres from the seed. The cotton is pressed into bales and bound with steel bands. It is then carried by rail to Port Sudan.

The cotton picking goes on into April, when the last bolls ripen. After the harvest, herds



Ginning cotton, using a machine made at Oldham.



Building a house in the Gezira using hollow concrete blocks rather than the traditional mud bricks. The roof is corrugated iron and the small cooking yard can be seen to the left.

of cattle, sheep and goats are turned into the fields to eat what remains. Then comes the most unpopular job. In temperatures of well over 100° F. in the shade, each tenant has to make sure that each of his 110,000 cotton plants is pulled out by the roots and burned, so that diseased plants will not infect the ground.

The village of Abu Ushur is partly surrounded by acacia trees and bushes to protect it from the wind. There is a school, a clubhouse, a dispensary and a well for drinking water. There are also three general shops and a butcher. A village lorry travels daily to Wad Medani for shopping expeditions. Two herdsmen look after the tenants' cattle (Ahmed has three cows and two goats, as well as a donkey) for a few coppers a day.

Ahmed's house is of mud-brick and is very much like those in

Omdurman. Life for his wife is very much improved. She has attended classes in elementary domestic science and can even read a little. She no longer has to collect dried dung for the cooking fire, but can afford to buy charcoal. She can even pay a labourer's wife to draw water for her at the well. The washing is done at a laundry and the millet is ground at a mill and no longer between stones in her yard. The house is lit by paraffin pressure-lamps, and a radio and a sewing-machine are prominent new possessions. Some of Ahmed's neighbours are wealthy enough to own a car.

The old Moslem custom was that a women must wear a veil to hide her face from everyone except relations. At first this made education very difficult for it limited the things that a girl could do outside her own home. This custom is now disappearing. It is



Cotton merchants in the Gezira fields

becoming quite common for a woman to go shopping and to choose dress materials and foodstuffs. In theory it is possible for a Moslem man to have up to four wives, but this is now rare. Many educated Sudanese are beginning to appreciate the Western ideal of marriage and are happy with one wife. These changes, helped by education, are gradually making the women capable of leading fuller and happier lives.

Life is good for Ahmed. There is security and, sometimes, good profits. The whole scheme now belongs to the Government, so none of the profits go to the original shareholders. To set against this there is monotony both in the landscape and in his routine. Ahmed still complains of "the straight lines" and "the horrid little squares" of the flat, featureless plain. The Government is fighting this dispiriting atmosphere by setting up football clubs, running a local newspaper and planting trees. Even so, a large number of boys are leaving the Gezira after receiving a technical education and going to work in Khartoum and Omdurman, or on the railways. Some of the thrill of the railways which draws the boys away from the sameness of the Gezira can be seen in the next chapter. The old men are still happy with the scheme because they can remember what it was like to be without water and hungry.

CHAPTER SEVEN

TRADE AND TRANSPORT TO THE RED SEA COAST

Port Sudan

LOOK at the map and notice the Sudan's short coastline. As in Egypt, the central route way of the country is the Nile, but in fact nine-tenths of the Sudan's foreign trade is carried on through Port Sudan on the Red Sea. Without this short stretch of sea coast in the north-east all Sudanese trade would have to go through Egypt.

Before this century Suakin was the main port. The ancient Egyptians and Romans were known to have come here by land and sea, and for more than a thousand years the Chinese have brought pottery to exchange for ivory and sharks' fins. The latter are much prized by the Chinese for making soups. Slaves, gold, tobacco and ostrich feathers were also exported through Suakin. None of these things were found on the coast. They were brought from as far as 500 miles away because the port was a good market with routes running north to the Mediterranean and south-east to India. The area which uses a port as a distribution centre is known as the "hinterland" of that port. The coast is important to the country because the carrying of goods by sea is cheap. Cereals, coal and oil can be carried in bulk, thousands of tons at a time. The cargo can be poured into the ship or sucked or shovelled out cheaply. The roadway (the sea) does not require money spent on it, whereas the Sudan's railway to the coast costs £10 a mile every year just to

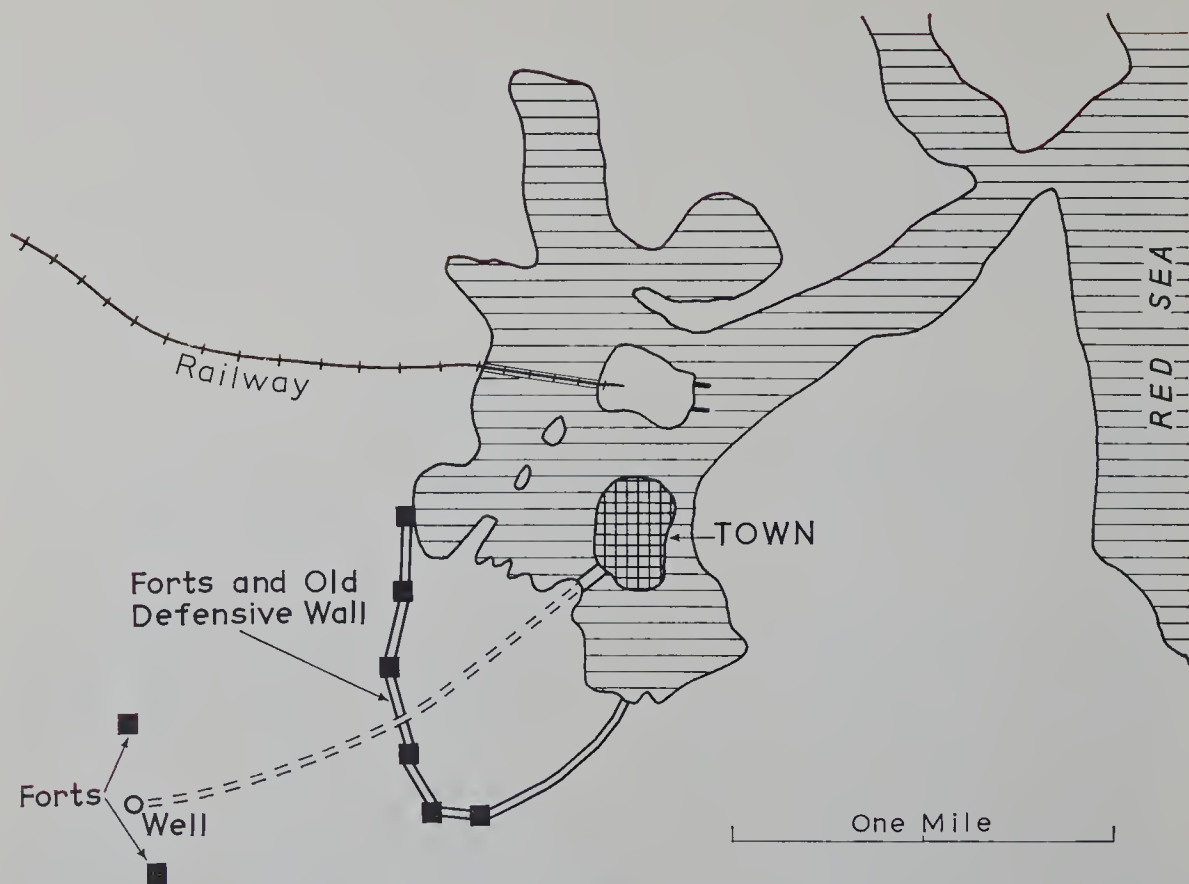


FIG. 14. *The port of Suakin, showing the defences of the last century*

keep it in its present state. Goods are often cheaper at a port and for this reason a deep-water inlet has a large number of people living around it taking advantage of lower prices.

In most countries the coastal plain has a good soil and the flat land makes the building of factories easy, so that from simple natural advantages the coastal plain soon becomes the richest and most populous part of a country. Unfortunately, the Red Sea coast land of the Sudan is coral and there is not enough rainfall to grow anything on this poor soil. There is often moisture in the air but it only turns into rain in the winter over the Red Sea Hills. The rain pours off the hills in fast-running rivulets which carry much of the thin soil with them. For a short time after rain grass grows



The dying city of Suakin

on the plain but this is soon dried up by the sun. During the rest of the year there is only enough water for a small shifting population of nomads.

Suakin has a few permanent wells. The narrow inlet of the sea opens up into a roomy, circular, deep-water anchorage, and in this lagoon there is an island on which wealthy traders used to defend themselves in more troubled times. Half a century before the Armada, the Portuguese sent a large fleet to the Red Sea to attack the Turks and one of the captains described Suakin as being nearly as large as Lisbon and "the water has in all places five or six fathom. . . . The ships . . . may be laden by laying a plank from them to the merchants'



Resting in the shade of the arcade at Suakin. On market days this spot is crowded with people and produce. The narrow strip of water between the island and the mainland can be seen through the arch.

warehouses, to the doors of which the galleys are fastened with their beaks stretching over the streets which serve as bridges.” Loading must have been very easy and cheap.

The opening of the Suez Canal in 1869 brought more prosperity, and European traders braved the climate to settle there. The scarcity of cattle in Arabia produced a thriving trade in leather water-skins and grain sacks. Ivory was exported to India and England, cotton and vegetable oils were brought in by camel for export. Large crowds watched the gathering of caravans of up to 1,000 camels to carry sugar, rice, cloth and metal goods back to the hinterland. Large, three-storied houses were built from uncemented blocks of cut coral. At the end of the last century General Gordon

ordered a causeway to be built to the island; it was undignified for the inhabitants of such an important port to go ashore by tying their clothes into a bundle on their heads and wading.

When the Sudan came under joint British and Egyptian rule, after the defeat of the Mahdists, the Government called for a report to plan the development of Suakin. Every country needs a good port and, before the Sudan could prosper, it needed to improve the port facilities. For centuries trade had been carried on and pilgrims had gone by the thousand across to Mecca. All this trade had been carried by small Arab *sambuks* (often called *dhow*s by English writers, but these are really much larger warships). These had been able to get through the S-shaped channel which winds through dangerous coral reefs to the lagoon. It was obvious that large steam vessels would not be able to navigate this entrance. In the days when defence was important Suakin was a most suitable port, but the planners were looking forward to a period of peace when trade would boom and when big steamships would call every day at the Sudan's port. Suakin was not well suited for this.

Coral reefs make navigation difficult all along this coast. Where fresh water flows into the sea there are gaps in the coral, because the little coral polyps (whose dead "shells" build up the reef) only live in warm, salt water. A suitable inlet was found forty miles to the north at a point where a muddy stream occasionally rushed in to the sea. There was nothing there but a waste of shallow sand lying on grey coral rock, and the inlet of the sea where the coral was broken. The only building was a dusty, ramshackle little tomb of a Sheikh Burghout. The old name was abandoned and the name of Port Sudan was given to this prospective port, but the little tomb is still there.

The demands of trade were such that a completely new port was created in this wilderness. Soil was brought all the way from the Nile valley for the gardens, and a scheme was devised to provide drinking water. The winter torrents from the Red Sea Hills were collected twenty miles away by a dam and their water was piped to

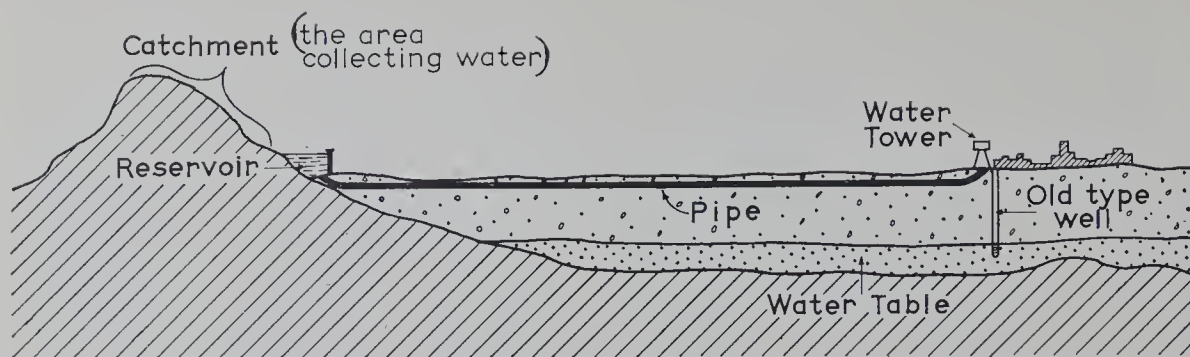


FIG. 15. *Old and modern methods of collecting drinking water as used at Port Sudan*

the new port. Less than forty years ago all the port facilities were transferred from Suakin to the new port. Suakin rapidly decayed. Muslims on pilgrimage to Mecca still use it, but only about 4,000 people now live there, compared with 30,000 in its trading period.

The Railway to Port Sudan

To visit Port Sudan we travel by rail. The Sudan is not well off for railways. We have forty miles of railway for every 100 square miles of the British countryside, but the Sudanese have only a quarter of a mile for each 100 square miles. The railway came at the right time in the Sudan's development. The main routes were connected by rail at the beginning of this century, but by the time the other areas were ready to be opened up motor lorries were available. It is far cheaper to use motor lorries between widely spaced towns. We find that the railways run at a loss in Britain even when the trains can stop every few miles to pick up passengers. Imagine the losses when the main stations are 300 miles apart as in the case of Port Sudan and Atbara.

The first part of the journey from Khartoum takes us north to Atbara on the main line. To protect the traveller from the heat the railway carriages are painted cream and the windows of the first-class compartments are tinted blue. There is an air space between the ceiling and the roof. Electric fans keep the air circulating. Atbara

is the railway centre of the Sudan. Here over 3,000 workers repair engines and make new goods trucks.

The train leaves at 6 p.m., but you will not find this time on your time-table. The Sudanese use the 24-hour clock to avoid confusion between times before and after noon. To change our times into continental times you carry on from 12 instead of starting again at 1 p.m. This train will leave at 1800 hours (the third and fourth numbers indicate the minutes past the hour).

The relief driver is a young Sudanese from the Gezira called Omar. He was not very keen to become a farmer and he was lucky to be one of the few boys to get a technical education at the Sudan



Passengers boarding the Port Sudan train. Tin trunks and palm baskets are the main luggage. Nearly all the various types of dress are represented in the photograph.

Railways School. He wears the dark blue cap and uniform of the government railway service, which also operates the harbours and river-boat services. He carries a change of clothes and his bedding in a case because the journey to Port Sudan takes fifteen hours and he will be away from home for several days. Before he boards the train he goes over the details of the journey with the driver. He notes where the repair gangs are working on the narrow-gauge track (the width is only 3 feet 6 inches compared with the 4 feet 8½ inches in this country). All the lines are single-track, so great care has to be taken that only one train at a time is running over a particular section of the line. Before a driver can proceed he has to receive from the stationmaster a brass symbol shaped like a triangle. There is only one of these, so while he is carrying the token no other train can be on the section. A train coming in the other direction will have to wait at a loop in the line until the drivers can exchange tokens. These are different shapes for different sections of the line.

The signal drops and shows green, the station bell rings, the guard holds up his lamp and blows his whistle, the driver lets off a blast of steam and the night train to Port Sudan is away. It is a mixed goods and passenger train. There are six goods wagons with loads of millet, gum, cattle and hides, eight passenger carriages, a dining-car and a sleeping-car. Behind the engine's coal-tender is a tanker for water, which has to be carried because it cannot be picked up on the way. In the guard's van at the back letters are sorted ready for delivery in Port Sudan. A searchlight is mounted on the front of the train.

It soon gets cold in the clear night and the passengers take out blankets to wrap around themselves. They share slices of bread and cheese and chew pieces of dried meat and dates. Omar takes over driving at 2 a.m. while the train is waiting at a siding to allow a goods train to pass. The goods train is made up almost entirely of petrol tankers, although there are two flat cars loaded with new British motor-cars. Once he has received the brass token from the guard of the goods train Omar moves on.



A station in the Red Sea Hills. Water is being taken on.

Out of the blackness ahead rise the silhouettes of the Red Sea Hills, 4,000 feet above the plain. The searchlight picks out the dark line of steel girders which support a bridge across a deep gulley. On the coast the air is always moist, but rain only falls in winter. At that time the north-east trade winds are blowing across the Red Sea. They are forced to rise by the hills and this causes cooling, together with heavy dew and rain. Much of the rain does not soak into the rocky hills but runs off in great torrents, cutting deep gashes as it does so. Sometimes the railway line is washed away by one of these storms and large gangs of workmen have to be rushed out from Atbara to repair the gap. Another hazard may be a swarm of locusts on the rail causing the wheels to be so greasy that they will not grip. Sand drifts are also common near Atbara.

Once past the summit the railway runs quickly down, making great loops through the steep, barren hills to the coastal plain below. The coastal land is flat and the railway line extends ahead in a long,



Repairing the track after a wash-out on the Port Sudan railway. Damage was caused to almost ten miles of the line.

gentle curve, bordered by telegraph poles. The only sign of life is a group of goats grazing near the track and some nomad shelters in the distance. A post shows the number 780, which means that this is 780 kilometres, or 500 miles, from Khartoum. On the horizon is the sea.

Port Sudan can be seen from many miles away if mirages or dust clouds do not hide it. The cranes, water-towers and taller buildings stick up out of the stony plain. The town is much bigger than it appears at a distance, for most of the buildings are of one storey, and, being built of coral rock and washed with coral lime, blend into their background. There is a big salt industry, evaporating

salt water in pools under the sun, but apart from that the town lives by the work of the harbour.

Many of the dockers and stevedores are fuzz-haired tribesmen from the Red Sea Hills. They have left their families, scattered miles away in their tents of palm-matting, where the camels search for scanty grazing. They only work here for a short time, loading and unloading to the tune of interminable shanties, and then return to their homes in the hills laden with coffee, sugar, clothes and gold ornaments for their wives. There are also fishermen who live in nearby villages. They provide the sharks' fins for export to China and a kind of oyster shell to make mother-of-pearl buttons. They also supply salt fish to the native markets in Port Sudan. Here also are Indians, Egyptians, Syrians, Greeks, British and others, all concerned with the trade at the port.

A Port Sudan Merchant

One of the Greeks, Mr. Accropolis Theotoulus, is a shipper who has an office near the waterfront. In newspaper advertisements he says that he is an exporter of cotton, gum arabic, cereals, bees-wax, sesame, ground-nuts, cotton-seed, oils and skins and that he imports cloth, sacks, tea, coffee, flour, rice, petrol, matches, shoes, building materials and coal. He doesn't buy these things himself. Firms in Europe receiving orders for such things as ground-nuts have the choice of many countries to buy from so they place their order where the price is lowest. Mr. Theotoulus will quote a price for the Sudan and if an order is made he will see that the goods are transported to Port Sudan and even arrange shipping to Europe if there is a steamer passing through the Red Sea with cargo space. To carry out his business he has many other interests. He is the main agent for a British insurance company, a distributor of motor-cars, a moneylender and an owner of property.

Mr. Theotoulus is a "middleman" and many people think that it is the middleman who causes goods to be so costly and that if

the producer and the buyer were in direct contact things would be very much cheaper. But this might mean that you would only be able to buy things grown in your own area. When something is in season it can be bought cheaply, but the grower would not make much profit because all his neighbours are selling the same thing at the same time. The middleman finds the grower a market where the price is higher because of short supply. This tends to bring down prices where they are high rather than to keep them up. The middleman does all the detective work for the shopkeeper. The shopkeeper cannot afford the time to discover where best to buy a wide range of produce. He leaves this to the middleman. Even where there are many middlemen—wholesalers, shippers, agents—this is still the most efficient and the cheapest way of getting goods to the home.

The middleman seldom sees the goods, as most of his work is done over the telephone, but it is through him that we are able to buy the world's produce cheaply and it is through him that the producer is able to find somewhere to sell his goods. The whole business is even more complicated because most of the buying is done in advance; the wholesaler must have ground-nuts in stock so that he can supply them as soon as the retail shopkeeper asks for them.

Shipping companies make use of the middleman. The owners of tramp steamers cannot contact hundreds of different firms in the hope of finding a part cargo. If they are carrying wheat flour from Australia to the Sudan, a telephone call to the shipper in Port Sudan will tell them what goods can be carried from there when the flour is unloaded. It might perhaps be a shipment to Marseilles; then a telephone call to Marseilles will fix up the next load. It might only be a half cargo to Marseilles and the rest to London, so, to make the journey pay, the firm has to find a half cargo to carry from Marseilles to London. The middleman is the person who can prevent waste in time or in carrying space, so he keeps prices down rather than adding to them.

TRADE AND TRANSPORT TO THE RED SEA COAST

EXPORTS (*In thousands of £ sterling*)

	1938	1958	1959	1960
Cotton	3,427	23,847	40,164	33,156
Gum arabic	663	5,365	5,068	6,947
Sesame	200	2,361	2,753	4,594
Ground-nuts	44	3,672	3,575	4,393
Millet (Dura)	296	367	1,667	2,784
Cottonseed	242	1,527	4,325	2,774
Oilcake	20	1,195	1,702	1,419
Hides and skins	45	986	1,070	1,025
Cattle	36	1,006	164	968
Other items	136	1,417	1,798	1,347
<i>Total</i>	5,109	41,743	62,286	59,407

IMPORTS (*In thousands of £ sterling*)

	1938	1958	1959	1960
Vehicles	406	8,475	6,502	8,469
Cotton goods	1,160	7,009	7,549	7,046
Machinery	269	6,092	3,634	6,857
Metals and manufactures	432	9,254	4,777	5,481
Petroleum	175	5,224	4,728	4,869
Sugar	639	3,815	3,727	3,662
Tea	265	2,629	3,472	1,984
Wheat flour	156	1,061	1,909	1,634
Footwear	65	974	1,178	1,374
Fertilisers	16	1,292	979	1,323
Timber and sleepers	201	601	810	1,060
Coffee	209	1,354	2,205	955
Other items	663	3,501	3,221	922
<i>Total</i>	4,656	51,281	44,691	45,636

A shipper has to keep a close watch on world trade. He has to know what is wanted, when and where. He will have to study the trade reports and work out in advance what changes are likely to come about in his buying and selling. Study the export and import figures for the Sudan on page 69 and see if it is possible to forecast future changes.

Port Sudan

Port Sudan is a modern and efficient port. Over a thousand ships totalling three million tons use it yearly. Ships are able to enter by a deep-water channel (forty fathoms) under the guidance of tugs. They tie up at an extensive system of quays built on a coral-spit to the north-east of the harbour. The main quay is half a mile long and here electric cranes unload the cargo, while passengers are cleared through customs. The cargo has to be checked to see that the proper import dues are paid. It is then put in warehouses ready to be sent by rail to its destination. Railway lines come right down to the quay and run beside the warehouses.

A port has to have a mass of equipment for the handling of goods. There are several types of travelling crane on the quay and also a large floating crane. There is a quay for handling coal with special transporters. There is an oil berth on the south shore and many large storage tanks. Farther up the harbour are smaller cargo berths and dockyard workshops, a slipway for bringing small vessels ashore for overhaul, and there is even a special berth for loading salt. There are in addition tugs, cargo pontoons, coal lighters, water barges and fire-floats. Anchorages are provided for a variety of vessels ranging from private yachts to large passenger liners. There is even a village on the outskirts for the changing population of West Africans who are waiting for a passage to take them on pilgrimage to Mecca.

The Port Sudan shipper or Khartoum business man must have a realistic view of the Sudan's possibilities and difficulties. The most



Port Sudan from the air. Nothing is cramped ; a small habitation in a large expanse of desert.

important feature is her size. The Sudan is ten times the size of Britain and as yet there is little development. Money is needed to build roads and press forward new irrigation schemes. Yet to do this the Government has only a hundredth part of what the British Government has to spend. So far most of the money has been coming from cotton. When there is a good demand for cotton the profits are high from the Government's share of the Gezira scheme, but when there is a bad year everyone is hit because the country sells little else. And every year, good or bad, a lot of money has to go out of the country to buy food.

Food is adequate to keep the people alive and working, but it

is only enough for a slow rate of work. Energy and drive are often lacking. Inadequate diet is an important reason for this though heat and disease are also to blame. Here is the average weekly amount of food of a Sudanese in the Gezira:

Millet—1 lb.	and on rare occasions:
Rice— $\frac{1}{2}$ oz.	fresh fruit (bananas, melons)
Wheat— $\frac{1}{2}$ oz.	dried fruit (dates, apricots)
Fresh Meat—1 oz.	tomatoes
Dried Meat— $\frac{1}{4}$ oz.	marrow
Milk—2 oz.	cucumber
Beans— $\frac{3}{4}$ oz.	lime juice.
Onions— $\frac{1}{2}$ oz.	
Cooking Oil—1 oz.	
Sugar—1 oz.	

This is an average worked out to include men, women and children equally. In practice the working man's share will be more than this. But compare this diet with our own. A better diet would increase production and national wealth.

The Government is trying to save some of the money that is at present going out of the country to buy food by encouraging farmers to grow their own rice, sugar, coffee and cereals. With the gradually improving health services the population is rising rapidly. In Britain the average life span is over sixty-five years, in the Sudan it is only about thirty years. This is being rapidly increased, with the result that there will be more mouths to feed and a greater need for food output. More money will be needed for this. The problem is to decide where the little money available should be spent. The Sudan Government is hoping to extend cotton growing to $6\frac{1}{2}$ million acres and to pay for future developments out of the profits. Much depends on the future of the cotton market.

CHAPTER EIGHT

OMDURMAN AND KHARTOUM

The Sudan's Capital

THE table (page 74) shows some of the main dates which a Sudanese schoolboy would be expected to know about his country. Most of these are concerned with the capital city. As a country develops the capital serves different purposes. Think of London.

London as an ancient British village.

London as a Roman fort near a river crossing.

London as a Roman bridge town and route centre.

London (after many centuries) as the English monarch's home.

London as a world port.

London as a centre of commerce.

London as a centre of culture.

London as a centre of democratic government.

How many of these are true today?

The Sudan's capital has gone through rather similar stages, though almost the whole story has happened in less than a century and a half. Before 1830 the Sudan's capital was at Sennar. Then an Egyptian commander-in-chief moved his capital to Khartoum and you can see from the map why this is better than Sennar as a route centre. In those days travel was mainly by sailing-boats or by camels which followed tracks near the river. Thus Khartoum became a focus of routes long before its bridges were built.

Outline of the Capital's Growth

- 1821 *Turks and Egyptians conquer N. Sudan*
- 1831 *Khartoum founded*
- 1885 *Capture of Khartoum by Mahdi*
- 1898 { *Battle of Omdurman and defeat of Mahdi's successor*
Anglo-Egyptian rule starts
- 1921 *Egyptian officials eliminated*
- 1927 *Policy of developing local authorities started*
- 1939-45 *World War II. Sudanese soldiers help to defend their country*
- 1945 *Beginning of Khartoum University*
- 1955 *Independence of Sudan. Most British officials leave*

As we saw in Chapter Two, the Egyptians came in search of gold and slaves. Later they tried to put down the slave trade, using General Gordon. When, in 1885, the city was besieged by the Mahdi another part of the capital grew up. The Mahdi's base of operations was on the west bank of the main Nile at Omdurman.

Many of the toughest troops were Baqqara cavalymen who had left their herds and families in Southern Kordofan to seek death or glory fighting for the Mahdi. Omdurman started as a military camp with tents and huts scattered over the stony hillocks of the west bank. Today, if you look at a map of the city you can still see a jumble of winding streets and open spaces, the pattern of a great armed camp. Omdurman is a very African town which is only gradually losing the appearance of a huge village.

Like many African towns on the edge of the desert it developed into a centre for caravan routes. Camel tracks converge on its markets from the south, from El Obeid and from the north-west. Traders come from as far afield as West Africa, for the savanna has always been a great highway.

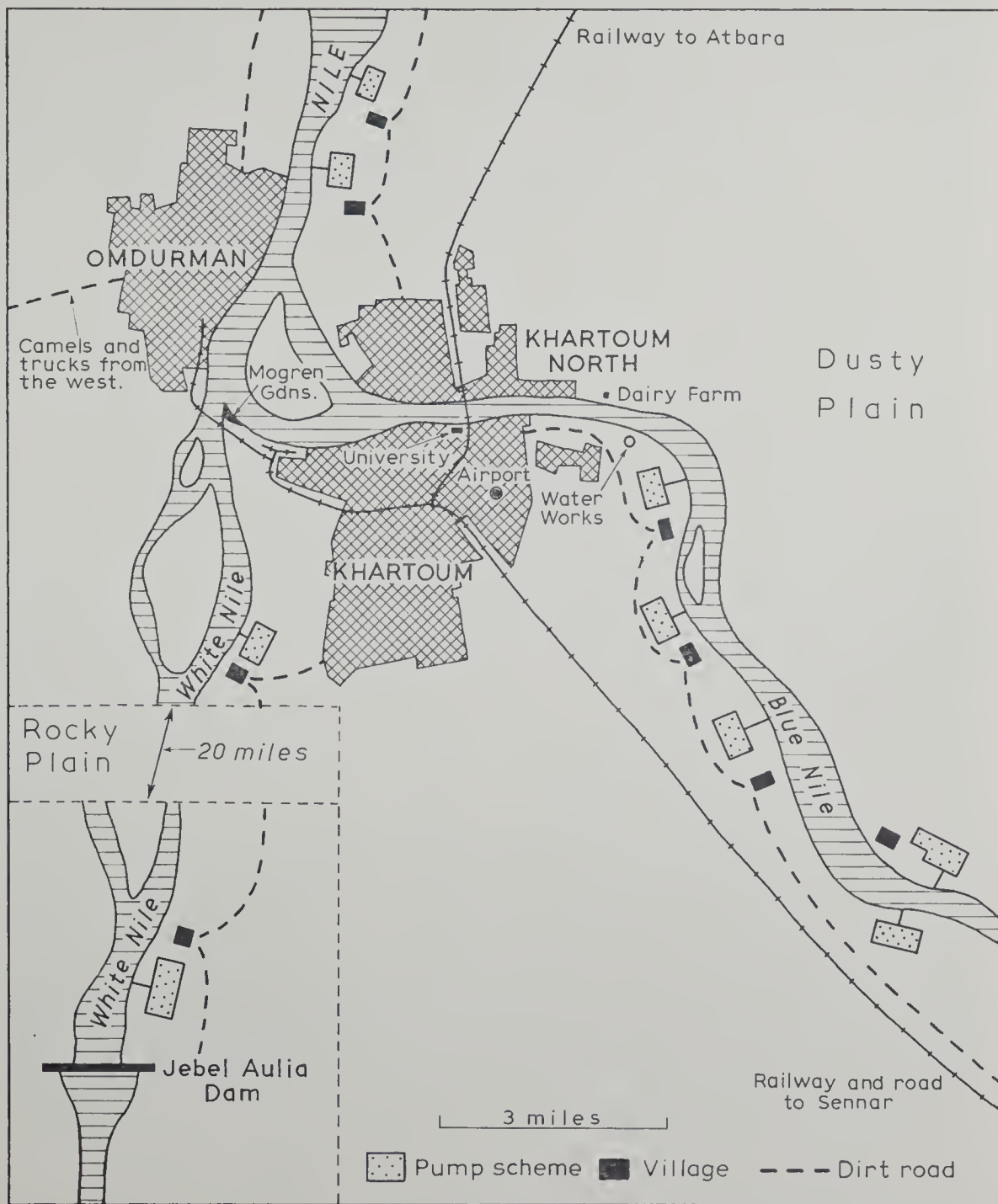


FIG. 16. Khartoum is a centre of routes though only the White Nile is used by steamers. Aeroplanes fly to Cairo, Rome, Entebbe, Kano, Addis Ababa.



Omdurman's main square. The courtyards, arcades and the central shelter are important shade points during the heat of midday.

If you went to Omdurman today you could go out to the markets on the town's western edge and see camel drovers preparing to set out on their five-hundred-mile journeys. In Omdurman they sell their sheep and camels. They buy coffee, sugar, cloth, aluminium vessels and simple crockery. They gossip and collect news. Today motor lorries carry much of this trade and they are parked near the markets, ready for the long drives, north-west through the desert or south-west through the savanna.

Omdurman is a great centre of religious festivals and several minarets break the drab skyline. One of the biggest buildings, itself a centre of pilgrimage, is the huge tomb of the Mahdi. Outside is a big square. Once a year for a busy week this square is dotted with stalls. At night thousands of people gather to celebrate the birth of

the prophet Mohammed. This is called the feast of the *Mulid*. Small boys press round the stalls buying blocks of Sudanese toffee or slabs of pressed and sweetened peanut brittle. There are many games, as in an English fair.

In the spaces between the stalls the men dance in groups of scores and hundreds. Each group belongs to a different religious sect. They stand in squares or circles facing a leader in the middle who sings and beats out the time near a bright lamp. The dance goes on and on. The dancers chant, following their leader, "Allah,



Omdurman market. The shop sells teapots and large flat dishes used for eating from. The gowns are loose and cool. Some people are wearing European dress. No prices are shown on the goods because the customer has to bargain for each item. The day's shopping will take a long time but will provide plenty of entertainment.

Allah, Allah, Allah.” Each sect has a special way of dancing and a special chant. The faces of the dancers glisten but they never seem to tire. Hour after hour the drumming, thumping and chanting goes on. It is a kind of popular religion, half dance, half song, half prayer.

We have met a friend at the *Mulid*. He is called Said, a government official who lives in Omdurman and works in Khartoum North. He translates some of the chants to us but explains that we must not join in. He is rather apologetic about the dancing and speaks of it as a custom which will soon die out. To our eyes, however, it does not seem much more primitive than a Scottish reel.

Later in the year the people all celebrate another religious occasion, the fast of Ramadan. All faithful Moslems must fast for a month. This means no food or drink from sunrise to sunset every day. This is a hard discipline and you can well imagine how welcome the evening meal is. In the previous year Said asked us to join him and his father for what they call their “breakfast” one evening in Ramadan.

We arrive at his house in the cool of the evening, just after six o’clock. Our hosts await us by the green iron door which opens through a tall mud-brick wall. Town Moslems do not like anybody to look into their houses. Though women are beginning to stop veiling themselves strictly in the streets they are still very shy about a stranger glancing into the privacy of the house. Said is now wearing a long gown like his father, having shed his European working clothes. They have just completed their evening prayers on the terrace. They look happy, but a little tired.

Inside the high wall is a yard of beaten earth. There are two tiny flower-beds, irrigated by tap water. In one corner is a square kitchen, in another a latrine. The main house is divided into two parts (Figure 17). The main parlour is well furnished but only used on special occasions like this when there are guests. We shake hands and greet each other with many words of welcome. A distant gun

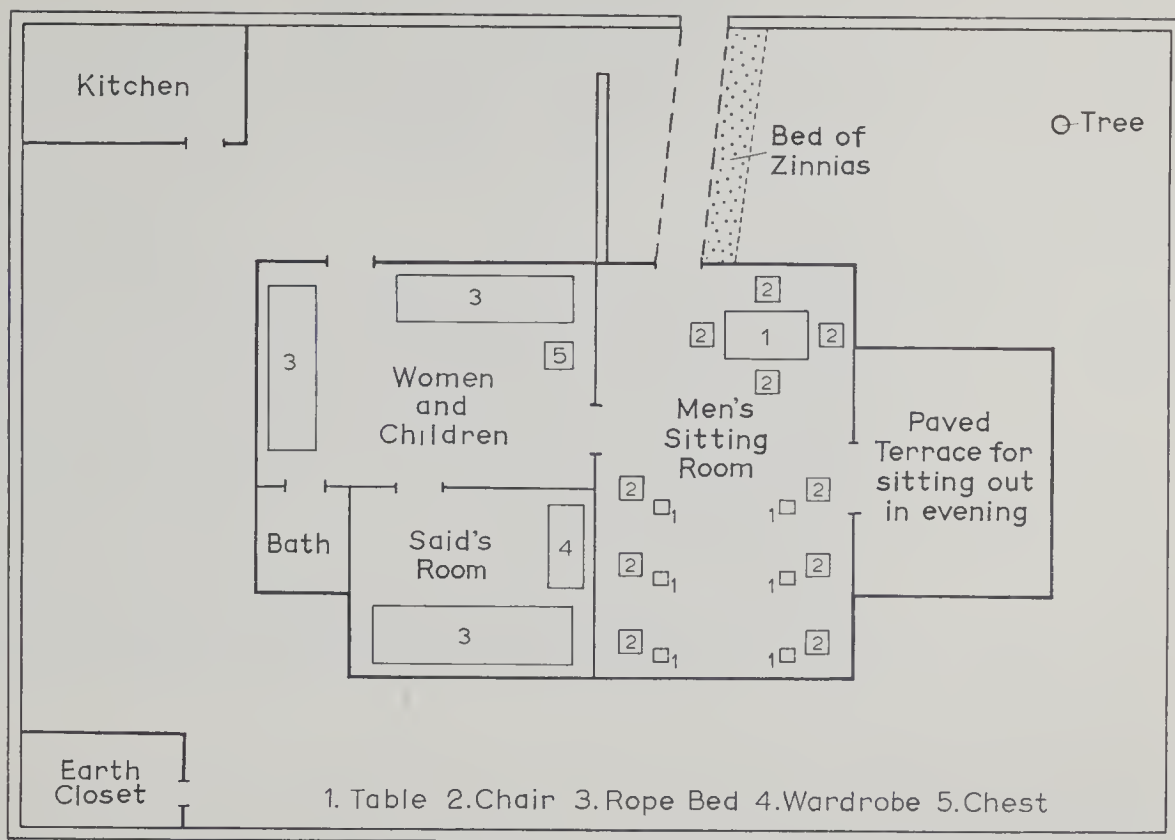


FIG. 17. *Said's house in Omdurman*

is heard. This is the sign that the sun has really gone down and that the fast may now be broken. But even then, despite thirst and hunger, no one is in a hurry. "After you." "Please make yourself quite comfortable." Our host is offering chairs to the English visitors in case they do not like sitting on the floor. But we decline and sit with the others in a circle.

. There is a small tray carrying delicious fresh lemonade and glasses of a strange red drink. The food is on a big brass tray, covered with a gaily coloured straw "hat." We look round at each other. The host says the first words of the Koran, "In the Name of God the Merciful and Compassionate . . ." and we repeat the words. Then, "Please help yourself," "No, I beg you." No sign of thirst or haste. Each of our hosts takes a little sip, pretending

A town house. The garden is bare except for the palm trees. The drain-pipes shoot the summer rain water clear of the walls.



that he is not thirsty. It is wonderful, and a quite natural exhibition of good manners and self-control—easy for the foreign visitors who have already had three meals that day!

The meal follows, leisurely and large. We pick up portions of savoury stew in our fingers, wrapping each mouthful in a bit of *kisra* (thin pancake bread). This is followed by roast pigeons and beans. We try the red drink called *kirkaday*, made from the juice of flowers. Then there is a pudding rather like ground rice, served with fruit juice and eaten with spoons. Everyone then washes their greasy fingers in a brass basin under the flow of water from a jug. Sweets and coffee follow and the party moves to the arm-chairs, where everyone sits talking till the time comes for departure.

Khartoum and Khartoum North

Omdurman is mainly a dormitory city. It has trade and a few workshops, but its main importance is that thousands of officials from Khartoum live there.

After breakfast next morning Said joins a crowd waiting at the bus stop. A few are in white *gellabiyas* but the majority wear light cotton suits and some wear European felt hats. All educated Sudanese, like Said, live a double life. At home, in the evenings and on holiday they enjoy many of the comfortable customs of tradition. By day they put on European clothes, cross the White Nile and work at high pressure in an office where typewriters rattle and accounts must balance.

Said's actual job is that of senior checker in the spare-parts section of the Mechanical Transport Department in Khartoum North. This is where all the Government vehicles are prepared. Special bodies are built on foreign motor chassis—trucks for surveyors, ambulances, troop carriers and trek wagons for district officials. Look at the map and you will see that this department is in the industrial part of Khartoum North quite near the dockyards.

The bus enters Khartoum. The air is fresher and cooler, for there are many shady trees and much of the ground is irrigated. There are large gardens in the public spaces by government buildings. The diagram (Figure 18) shows the important places that Said passes as he goes down the main road. Many of his fellow-passengers get

*Administrative
buildings in
Khartoum*



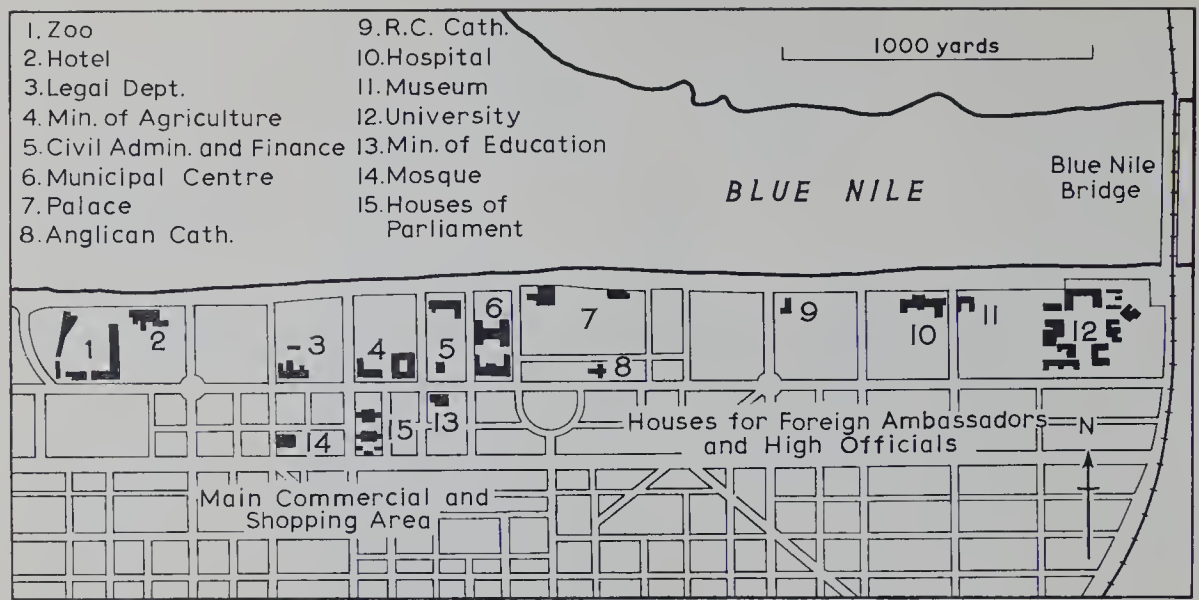


FIG. 18. Map of the centre of Khartoum showing the main Government offices and business areas. Most of the larger roads are tree lined. The minor roads are hotter and dustier.

off here as they work in the legal, agricultural or other departments. Others go to banks, trading firms or factories which lie mainly in the centre or south of the city (Figure 16).

Half an hour after leaving Omdurman the bus swings northwards over the famous bridge whose eight arches carry road and railway for nearly a quarter of a mile over the Blue Nile. Five minutes later Said gets out at the M.T.D. stores. It is punctually eight-thirty and he is ready for another day's work—a long hot day with no cold drinks.

The Work of a Capital

Most people who live in capital cities are concerned in one of the following activities: Communications, Trade, Government, Culture. Some cities grow big because they are near important raw materials. But *capital* cities usually owe their importance first to communications. The following kinds of communications have all contributed

The railway bridge between Khartoum and Omdurman. The far arch swivels on a central pillar to let steamers pass.



to Khartoum's growth. You might try arranging them in order—either in order of time, or in approximate order of present importance.

Bicycles	Side-wheel paddle steamers
B.O.A.C.	Steel bridges
Buses	Stern-wheel paddle steamers
Camels	Sudan Airways
Donkeys	Taxis
Horse carts	Telephones
Lorries	Trams
Radio	Wooden sailing ships

When the British took over the government of the Sudan in 1898 one of the first things they did was to develop the railway system. This cost a lot of money, but it was necessary for security and trade. The country needed peace after years of fighting and with good communications a small force could establish peace. But even more important, the railway brought trade. Just as the Gezira cotton scheme grew to prosperity along the costly canals, so trade and agriculture and even some industry were stimulated by the railway.

Khartoum has developed as a great focus of trade. Consider what happens when raw gum is sent from Kordofan to York. The buyer in the sweet factory contacts an agent in London, who cables his corresponding office in Khartoum, who is in touch with all the gum dealers in El Obeid, who buy gum stocks from the Hamar tribesmen. Look at the diagram below which illustrates a few of the actions involved in getting the gum to the factory. The money that you pay in the shop gradually “diminishes” as you follow

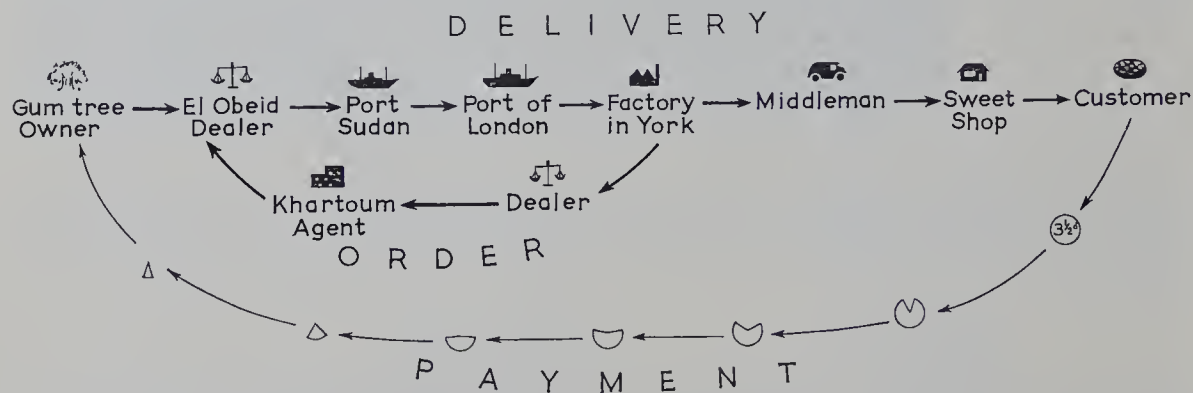


FIG. 19. This diagram shows some of the stages in shipping gum from the tree in Kordofan to the factory in York. It also shows how the money that you pay in the shop is used to pay many different people along the line of trade.

it back. Each person who has handled the gum takes a little bit so that the actual producer of the original gum in Kordofan only gets a small fraction. This is not unfair as all the middlemen do useful jobs which must be paid for.

The diagram of Khartoum's main road will suggest many kinds of government work which go on in the great city. Some departments are not shown there. There is a Forestry Department, a Health Department and an Irrigation Department. These all have many officials working in far parts of the Sudan, trying to improve the country. Khartoum sends them money, supplies and guidance so that they can do their work. Even though the hardest work is done by the men in the out-stations, the planning and hard thinking must



A Nile river-boat by the main Omdurman road. These boats are made of very thick planks nailed edge to edge, with no frame. The Nile is at high flood. The cargo is grain.

be done in the capital. So Khartoum is rather like the brains of the Sudan.

People must be taught to work well and the Government is responsible for most of the education. This is specially important in a country like the Sudan which has been economically backward and now needs skilled men and women to help it drive ahead.

Khartoum University only started in 1945 but now it is one of the most famous in Africa. Its students come from secondary schools all over the country. They qualify as teachers, doctors, engineers, vets, lawyers, economists. They are the coming leaders of the country but they are still far too few.

If you were to talk to an educated Sudanese or to almost any

educated African he would probably tell you that he was very glad when the British rulers left the country. He would say that he still liked your friendship and co-operation but he does not want you to run his country. He would prefer to do that himself, even if it means making mistakes.

CHAPTER NINE

PROBLEMS OF THE FUTURE

GREAT problems and opportunities confront the young countries of Africa. Many of these countries have one foot in the savanna and one foot in the forest. The Sudan is one of these and many of the difficulties she faces are found in other similar countries. The solution of these problems usually depends on the people themselves, on their knowledge, their patience and their ability to work hard. The rest of the world must be prepared to help, sometimes by sending out teachers and experts, sometimes by lending money, sometimes by understanding. Here are some of the problems.

Water

Most of the savanna is far away from rivers and so irrigation can only rarely be practised. The rainy season only lasts for about four summer months. Consider some of the ways in which water is stored from this rainy season for use later:

It soaks into the ground and is stored naturally until it is tapped by wells.

It is stored on the surface, in river reservoirs, in tanks dug out of the ground or in baobab trees.

It is turned into grass which may last as food for animals for seven or eight months.

It is turned into crops which supply food or cash to the farmers.

These are the ways in which life is carried over from one rainy season to the next. Nobody has discovered any other way of doing it and the development of the savanna lands in the future depends largely on improving the present methods. Which of the above methods do you think are likely to be most useful in the future?

Soil and Soil Erosion

When rainstorms beat on the earth the soil is loosened. Water which then trickles off the surface carries soil with it. Later, wind may blow the fine grains of soil away. The process is called *soil erosion*.

The top soil is the most valuable for plants and this is most easily eroded. Here the rich remains of decayed plants (humus) is found and there are valuable salts in solution and useful bacteria. It is these, when they exist in the right proportions, that make the soil fertile. The soil may be damaged in three ways:

- By water washing away the top soil
 - By wind blowing away the top soil
 - By overcropping, when farmers try to get too much produce from the soil—soil exhaustion.
- } soil erosion

These problems are especially serious where rainfall is light or irregular. In England the natural cover of grass and woodland protects the soil from rain and binds it together with roots. In the savanna, especially in the hilly parts, the soil can be ruined in a few years if it is unprotected or overstocked with animals. Goats, though valuable for their milk, are an especial menace to trees and grass.

When only a few people make a living from the land, the danger is less. The Hamar tribe, for example, cultivate for five or six years and then move on to other land. The natural grass and bushes return and protect the soil when it has been left. It soon recovers fertility. But when the population increases more food and cash crops and more animals are needed. Small trees are cut for fuel. Unless, at this stage, careful conservation measures are taken the

soil may be ruined for ever. This is one of the greatest dangers facing African farmers today. You may be able to suggest some ways in which soil erosion might be checked. Most remedies, however, will involve new methods and new ideas and so this problem too is linked to the next one—education.

Education

Africa needs schools very badly if its problems are to be solved. Only about half the boys in the Sudan and less than a quarter of the girls can get to school. This is partly because of the shortage of teachers and school buildings. But in some places the population is so thinly spread that children cannot possibly travel to school each day. Then there is the difficulty of educating nomads who spend much of their life on the move. Attempts have been made to create *moving* schools in tents, for nomads, but this has not been successful. How would your school fare if it had to be packed on the back of a bull or a camel every few days and marched off to new pastures? In some places the nomads have settled down permanently, but this again may lead to other problems like soil exhaustion and too many animals.

Health

Education is also an important weapon in the battle against disease. In many areas disease-carrying insects have little opposition from man. The mosquito carries yellow fever and malaria, and the tsetse fly carries sleeping sickness and a similar cattle disease. Parasites are common among people living in the tropics, most common are bilharzia and hookworm. In addition to these tropical diseases there are the common European ailments like bronchitis or tuberculosis. The situation is made worse because of the lack of education in hygiene and simple rules of cooking cleanliness. There is also insufficient understanding of the food needs of growing children and working adults.

Capital

New schemes for health, education and transport produce, in the long run, rich reward by increasing the prosperity of the country. But the difficulty is to get the capital to start these schemes and to keep them going in the early years. For instance railways must carry goods if they are to make a profit: without railways little can be sold abroad; if little is sold abroad there is not the money to build railways. To break this vicious circle money has to be borrowed from other countries or the World Bank. Before money will be loaned the lender must be reasonably sure that the money will be paid back. Before committing himself the lender needs to be able to trust the government borrowing the money, so political stability is important.

Political Stability

This is necessary if a young country is to be trusted and respected. But we cannot enforce our standards in a foreign land—the days of colonial control are over. African peoples have to learn to govern themselves. This means that other countries will have to be patient and allow experiments which might result in mistakes being made. In the long run stability can only come from a widespread sense of responsibility and co-operation from among the ordinary citizens.

Race Co-operation

Most of the problems mentioned above have been solved by earlier civilisations. The Romans knew about water and soil and were able to use the northern fringe of the Sahara to supply their empire with wheat. Farther afield, and in conditions as difficult, the Incas realised the need of a network of bridges and roads to serve their empire. The reason these people were able to achieve great things was because they were united partly by force, but partly too by a sense of common purpose. There are many races, religions and cultures in Africa. It is unlikely that much progress will be made

unless people of very different ideas are prepared to work together. Townsman and countryman, black and white, Moslem and Christian, savanna nomad and forest cultivator must get to know and trust each other.

The first step in this direction is to have a system of rule and order that is reliable. If most people feel that they are protected by reasonably just laws and that their interests are safeguarded by an honest civil service, then national confidence and individual self-respect can grow. The second step requires that education and a sense of responsibility should spread. This takes time, but it is only on such a basis that the great variety and rich resources of the African continent can be made to serve men well. Without these things the dreams of today's young politicians will be like mirages, shimmering on the desert's edge. But with sound administration and a growing sense of responsibility the young countries of Africa can develop rapidly on the foundations that have already been laid. Watch Africa; it is important.

GLOSSARY

- anqareb** a rope bed
baobab or tebeldi tree, has hollow trunk for water storage
dura millet
feddan an area of land, about one acre
feki holy man
feriq encampment
gellabiya a long night-shirt-like outer garment
goz sandhill (or qoz)
hafir a reservoir
kisra millet bread, like a thin pancake
jebel a hill or mountain
khore a watercourse
mosque a Moslem place of worship
mulid religious festival celebrating the birth of the Prophet
nazir head of a tribe, school, overseer or stationmaster
omda a local official responsible for a group of villages
saqia a wheel, with buckets attached, turned by an ox or camel, for lifting water
sambuk large, sea-going sailing boat
shaduf an arm with a bucket, counter weighted, to lift water
sheikh headman of a village
sudd vast marsh of reeds and papyrus
suq market or shopping centre
wadi watercourse or its dry bed
zeriba a thorn enclosure, a protection from wild animals

CONVERSION TABLES

The Sudanese use a very complicated system of local measurements, but the metric system has been introduced

1 Kilometre: 1·609 miles

1 Metre: 1·093 yards

1 Kilogram: 2·204 lb.

1 Hectare: 2·47 acres

1 Litre: 1·759 pints

£1 Sudanese (£S): 100 piastres. 1,000 milliemes: £1 0s. 6d.

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Service and has travelled in Asia and Africa.

K. C. LOCK is housemaster and senior geography master at Abbots-holme. He has travelled widely in Europe and North Africa, mainly with groups of scouts from the school.

Both authors are keen climbers, the former having climbed in the Hima-laya and Caucasus mountains.

